PANACEACHRONICLES

Pure, Natural Coca Leaf – A Healing Gift Of The Divine Plant

The Government of Peru is a major buyer of Coca Leaf in the Valley of the Apurimac-Ene-Mantaro Rivers, referred to in ever-charming government acronym style as “The VRAEM”. This Valley lies at the heart of the Andean mountain chain and could easily have been the model for Shangri-la. As it is, the Peruvian government, in league with the US Police State, has turned the Valley of the Apurimac-Ene-Mantaro Rivers into a war zone targeting peaceful Coca growers.

Interestingly the Peruvian government is also a major buyer of the Valley’s Coca Leaf, but the government buyers are well-known as cheapskates. That’s probably because – officially – government buyers and selected foreign buyers like Coca Cola are supposed to be the only buyers in the valley. They figure they’re doing the Coca growers a favor.

Of course, the Cocaine Cartels beg to differ with that, as do a substantial proportion of valley residents. And so there is no peace in the valley.

The Peruvian government owns and controls the non-Cocaine use of Coca Leaf through a monopoly named ENACO. This state-run company produces the official line of Coca tonics, medicines drinks and snacks for domestic consumption.

Peru’s politicians are in the Coca Leaf Remedios business because Coca Remedios are so deeply ingrained in Peruvian society that their use cannot be stopped – oh, and also because it’s a handy way to make some very nice revenue.

However, private entrepreneurs are not allowed to compete with the government monopoly, so Peruvian Coca Leaf products remain stuck with an incongruous “Soviet” look and excruciatingly ho-hum marketing. Too bad for Peru – Bolivian entrepreneurs and government officials are already making creative headway in the world markets for Coca Leaf and Coca Leaf medicines. (Pretty soon some country in Europe like the Netherlands or France is going to open up to Coca leaf entrepreneurs. The US is probably going to keep its Federal asshole puckered but one or two of the states ought to give Coca Leaf legalization a good hard look.)

Meanwhile, back in Coca Valley. At the same time that it low-balls the farmers’ Coca Leaf and makes cheesy Coca Leaf products, the Peruvian government wages war against any “extra” Coca growing by the people of Coca Valley. If they grow more than they are told to by the government, or if they refuse to sell to ENACO because of its ridiculous prices for their precious leaf, GOP burns and poisons their fields and makes their lives as miserable as possible. After all, their bottom-line motive is to satisfy the requirements of the US Police State that wants to be able to show the world that Peru is trying very, very hard to eradicate illicit Cocaine production. Very hard.

But Aha! Peru has come up with a plan! GOP wants the people of Coca Valley to grow only enough Coca to satisfy the government’s requirements, and then to convert to growing crops like bananas and cocoa – assisted of course by friendly “experts” from the US and UN.
start over with Bananas? Quite a few Coca Valley residents have not been pleased when approached by men with guns proposing this plan, and a few have gotten downright rowdy. Thrown rocks ‘n stuff. You know – terrorism.

So to complete the farce the Peruvian government declared the VRAEM a war zone a few years back, it ever since has been battling against the quickly shrinking remains of the once-powerful Shining Path rebels – as of late 2015 SL is down to under 100 guerillas, mostly old men and teenagers.

To go after this fearsome band the Peruvian government keeps sending in waves of troops, missiles and helicopters, while the US leaps in with space-based surveillance, military aircraft, dark ops and night raiders, chemical warfare assistance and high tech drones. All this firepower is arrayed against ragtag remnants of what was once a well-organized and very effective rebellion.

These survivors fight on, using the vast forests and jungles of the Coca Valley, an area the size of Switzerland, to hide in.

So this is the threat – a hundred tired rebels who are definitely at the end of their Shining Path. Can you imagine, a hundred guys getting together in the mountains almost anywhere else in the world and the central government spending $250 Million a year to try to get rid of the rebels and eradicate a few thousand hectares of croplands at the same time – and failing?

“The Peruvian government’s (2014) counternarcotics strategy includes ambitious goals for eradication, interdiction, and alternative development, and addresses associated issues such as the control of precursor chemicals, organized crime, money laundering, and the rule of law. The Humala Administration increased its counternarcotics budget from $220 million in 2012 to $256 million in 2013. For the first time, Peru contributed $11.6 million towards eradication efforts and concomitant aviation support, which historically has been funded by the United States.” US Department of State

OK, so the Peruvian government spends $256 Million of mostly US money a year to – what – combat terrorism and cocaine trafficking and deal with other related dangers to the children, like free speech? And the US is right there helping out with money, technology, guns and manpower, just like the US was when the Fujimori government, funded by US foreign aid money, forcibly sterilized hundreds of thousands of Indian women in the 1980s in so-called “population control” programs.

Speaking of terrorism, let’s look at the terrorist activities of the Shining Path guerillas that are being used to justify all this government-initiated violence a little more closely.

So, how big a threat to the peace and tranquility of Peru is the Shining Path, actually? Here’s the US Department of State list of every one of the terrorist incidents involving the Shining Path in 2014. (Don’t worry – it isn’t a real long list)

i. On April 9, Peruvian police arrested 28 leaders of the Movement for Amnesty and Fundamental Rights – a front organization that advocates for the release of imprisoned SL founder Abimael Guzman. Those arrested included two of Guzman’s long-time lawyers, Alfredo Crespo and Manuel Fajardo. The 28 were charged with terrorism and terrorist financing using narcotics revenue. On August 4, the National Anti-Terrorism Court, citing lack of evidence, ordered that the 28 be released from pre-trial detention. Although the court ordered the detainees released, it did keep the charges intact so the trial can move forward.

ii. A May 16 clash between security forces and the SL in the Junin region left one SL guerilla dead and another wounded. The rest of the column was able to escape, but soldiers recovered weapons, ammunition, and communication equipment.

iii. On June 17, a combined Peruvian military and police force killed three SL terrorists in the VRAEM emergency zone. The joint patrol recovered a number of weapons, including a heavy machine gun that SL fighters reportedly stripped from a Russian-made Mi-17 helicopter they shot down in a 2009 attack that killed three soldiers.

iv. In August, security forces rescued six adults and three children from a work camp in the VRAEM used by SL to provide food and logistic support for its members.

v. In August, police officers in the UHV arrested Oscar Silva, who is believed to have been the second-in-command to “Comrade Artemio,” who was captured in February 2012.

vi. In September, soldiers rescued 11 people, including six children, who were being forced to work for SL in Junin’s Satipo district.

vii. On November 2, security forces announced the arrest of Filemon Huillery, considered one of the top financiers of SL in the VRAEM.

OK – there you are. That’s the Peruvian government’s 2014 body count in the US-sponsored War On Narco/Terror in Coca Valley. The totals include: 0 soldiers dead or wounded; 4 SL terrorists killed, 1 wounded; and 20 people including children
rescued from slave labor for the Shining Path.

And that's after a full year of running around this valley the size of Switzerland with thousands of troops, helicopters, attack jets, tanks, HumVees, guns and rockets, and the latest ground, air & space-based surveillance technology courtesy of the US. All this technology and manpower chasing approximately 100 Shining Path guerillas (now minus 4) as they shake down Coca growers, take pot shots at soldiers, hide in the jungle, enslave the occasional villager, and make Coca Base to generate an income.

So, now that we all know how well the "War On The Gang Of 100 Terrorists" is going – how about the “War On Coca Plants”?

Well, according to a 2014 roundup (sic) by the US Dept. of State, Bureau Of International Narcotics And Law Enforcement Affairs

“Peru remained the world’s top potential producer of cocaine for the third consecutive year, and was the second-largest cultivator of coca, with an estimated 50,500 hectares (ha) of coca under cultivation in 2012, the most recent year for which data is available. The majority of cocaine produced in Peru is transported to South American countries for domestic consumption, or for onward shipment to Europe, East Asia, and Mexico via private and commercial aircraft, and land and maritime conveyances. Peru is a major importer of precursor chemicals used for cocaine production.

" President Ollanta Humala dedicated substantial resources to implement Peru’s 2012-2016 counternarcotics strategy. The strategy calls for a 200 percent increase in the eradication of illicit coca by 2016. The Government of Peru remains on pace to meet its ambitious targets in this area, and in 2013 eradicated in the Monzón River Valley, a hostile area with little state presence, for the first time in decades. Sendero Luminoso (SL or Shining Path) operating in the Apurimac-Ene-Mantaro River Valley (VRAEM) relied on cocaine trafficking for funding, and killed and wounded several police and military personnel during counternarcotics operations.”

Oops. It looks like even with hundreds of millions of dollars, armadas of military-scale technology, thousands of heavily armed soldiers and police, and humungous firepower applied year after year, you still can't (or conveniently don't want to) deal with 100 guerillas operating in an area the size of Switzerland, and at the same time in spite of this all-out War you also still have the distinction of being the world's top potential producer of cocaine for the third consecutive year, and you were the second-largest cultivator of coca in 2014.

This whole US-promoted War On Drugs/War On Terror thing really isn't working for you is it?

Respectfully, I have a suggestion to offer.

Peru has a world-class renewable natural resource in the Coca plant and the people who have grown it for centuries. Why not go with what you have instead of playing a losing game in return for Yankee dollars? Why not just tell the US to go home, make peace with the Cartels and let them make and export all the Cocaine they want as long as they pay taxes, work with the indigenous people to build a Coca Leaf-based economy throughout the country, build a health industry based on Coca Leaf treatment at spas scattered throughout the mountains, and allow private enterprise to apply the entrepreneurial spirit to development and global sales of Coca-based medicines?

Next, pay off Shining Path and let them go home for God's sake – including those you are holding in prison. I imagine that $50-100K per SL guerilla would do it - a total of $5-10 Million (one-time investment) to get the whole hundred of them to lay down their weapons, for which they receive amnesty and a piece of land to grow Coca. And the SL in prison who agree to go home and live peacefully ought to get the same deal.

So Government of Peru, instead of spending hundreds of millions every year on a couple of wars that are going nowhere and aren't even yours, plus terrorizing whole communities of your People, why not lead the world and declare that Coca is a gift from nature and that the Peruvian government will no longer stand in the way of those who wish to make their living by growing and making products from it – including Cocaine. What the rest of the world thinks shouldn't matter.

I mean, hey there, government of Peru – don't you have better things to do than chase 100 members of the Gang Who Can't Shoot Straight, a bunch of peaceful Coca growers, and gangs of very determined Cocaine makers? Didn't that US-sponsored clown Fujimori bring down enough evil on Peru to make the government finally decide to work for rather than against the People? If everybody's happy in Coca Valley who cares what the US thinks?

It can happen. The US isn't so tough anymore. Just ask your neighbors in Bolivia.
How Coca Leaf Could Balance & Heal Our Gut Microbiome

The scientific and medical literature of the 1800s gives us thousands of case studies primarily from Europe, Canada and the US, as well as somewhat limited published research, on the role of Coca Leaf preparations in treating and healing an impressive range of conditions and diseases.

In these case studies Coca Leaf was almost always consumed by the patient as tea (hot water extract) or tonic (alcohol extract), which means that the initial site of almost all the recorded medical action of Coca Leaf on the body was the human gut.

The same has been true for hundreds of generations in the Andes – they chew Coca first to bathe their gut with the healing, balancing juices, and from there the healing influences radiate throughout their muscular, endocrine and nervous systems.

So according to the historical evidence, the healing action of Coca Leaf appears to be centered in the gut.

Fast forward to today.

We now know that it is the health and balance of an individual’s gut microbiome that determines their overall state of health. We know that when that balance is upset gut diseases occur, and we increasingly understand how metabolic and neurological diseases are linked to disturbances of the gut microbiome.

Human adults carry about six pounds of bacteria in our gut, and in this mass of living organisms there are literally tens of thousands of species – most of them still unidentified. However we do know the major players in the human gut, and increasingly we are finding out that changes in the populations of these major players, plus blooms of pathogenic players like klebsiella and c. difficile, seem increasingly likely to be causing serious human illness.

So it may not be making too much of a speculative leap to say that it is likely that one of the important things that 19th Century science is telling us is that Coca Leaf helps to maintain, and works to restore a healthy gut microbiome, although of course those 19th Century doctors knew nothing of the gut microbiome. But they did know that Coca Leaf preparations worked on a wide range of diseases – better than almost anything else in their apothecary.

It certainly wouldn’t take a major research project to confirm or to disprove what I believe the 19th Century medical literature so clearly suggests. As part of the work I’m doing in trying to find funding for “Centros de Coca Curación” I intend to include funding for research studies in this and related areas, engaging reputable degreed scientific and medical researchers in Peru, Bolivia and any other country where they would be free to conduct their work and publish the results.
Readers of this blog know that in past posts I have engaged in a lot of speculation on the modern implications what 19th Century science knew about the healing properties of pure, natural Coca Leaf. I believe that the richness of the human experience recorded in those days by people of science and medicine can guide us today, lost as we are in the machinations of the pharmaceutical and allopathic medical “industries”.

Isn't it time to begin demanding that legislators in states that have legalized Medical Cannabis now move to legalize first the import of fresh Coca Leaf and Coca Medicines and also to legalize cultivation of Coca Leaf in the United States for general consumption as well as medical purposes?

Resisting The War On Drugs In Peru's Coca Valley

The BBC has done it again with outstanding photography and gripping first-person stories of the Mochileros who farm and trade Coca in this beautiful valley deep in the Peruvian Andes. The atrocities that the US Drug Laws and our paramilitary War On Drugs have committed in the communities of this remote valley are well-documented in this excellent photo-essay although the crimes and their consequences are implicit rather than explicit. How the people of this beautiful valley live now is well documented here; how they could be living if not for the criminal insanity of the US is left unsaid.

Coca growing goes back to pre-historical times in this valley but the modern world's insatiable demand for Cocaine has warped traditional Coca Leaf growing into a dangerous mix of guerillas, drug cartels, government agents, and foreign military/covert operations.

The BBC tells this story with a level of story and graphics that takes you directly into the Mochileros’s world and allows you to walk with them on their dangerous path through the mountains with a backpack full of Cocaine.

As I read this story I couldn't help but wonder what life could be like in this beautiful valley if the people were free to tap into their Andean heritage to make natural coca medicines for the world instead of being forced to work as human mules.

To read BBC’s “Coca Valley” click here.
Opium, Peru, & The British Empire Drug Cartel

When most of us think of Peru and drugs we naturally think of Cocaine, and of course I hope that readers of this blog also think of Coca Leaf and say to themselves – “La Coca no es la Cocaine.” It’s probably a fair assumption that few people link Opium and Peru in the same thought, and of course there is not a lot of Poppy production in Peru – unlike Mexico, Cuba and a number of other Latin American countries.

However, as I have been researching the historical record for my book-in-progress “The Poppy Juice Papers” I am finding some fascinating Opium-Peru connections, with an interesting England-China-California-Peru axis.

To fully appreciate this connection we have to remember that the British in the 19th Century were the world’s greatest drug dealing empire, far eclipsing the dreaded “Cartels” of today in scope, wealth and power. Of course, just as it is highly unlikely that the American CIA, or at least some of the main people involved, got out of the heroin business just like that after the war in Vietnam ended, it is equally unlikely that the British ever actually left the lucrative worldwide Opium trade after the 20th Century saw the birth of the “War On Drugs”.

While the propaganda machine popularly called “the media” go on and on about the Latin American Drug Cartels, complete with photos galore of the tacky wedding cake mansions built by the “Drug Lords” and gruesome photos of their leaders lying full of holes and bleeding out in some filthy alley in a slum, one never hears a peep from the media about the network of American and European financial and business institutions that operate from well-groomed British estates and ultra-private American clubs with the Latino Drug Cartels as the front men. Does anyone really think that monsters like HSBC really arose from nowhere, or started life as legitimate banking institutions?

If one had the resources, and the careless disregard for personal safety, it would be a relatively simple matter to trace a great deal of the dark network behind today’s international drug trade straight back in an unbroken line to the British Empire. The goobers who control today’s worldwide drug trade are, in large part, blood and marriage descendants of the “legitimate businessmen” who ran the worldwide drug trade under the legal protection of the British Crown – which I am sure takes its share of the profits today just as it did hundreds of years ago.

In the following post you can clearly see how one small part of this global network began and flourished in the 1800’s. Again – does anyone think that such an immensely profitable enterprise simply went away at some point in time? After all, the drug trade isn’t like any other industry – it has continued in unbroken succession over many generations because its basic products have not changed and cannot be supplanted by technological advances. Of course the initial trade in Opium evolved into Morphine and then Heroin, but good old Opium is still King. And of course Cocaine evolved into mutations like Crack, but nothing yet has replaced Queen Cocaine. Even Cannabis, which in modern times has evolved from crumbled bags of mostly-leaf Mexican weed to today’s gourmet 10X-20X THC buds hasn’t really changed, and there are still huge amounts of money being made by growing it south of the US border and smuggling it in in spite of all the legal growing now going on in some of the more enlightened US states. Even alcohol hasn’t changed that much, even though we now have esoteric markets for hundreds of brands of micro-brew and boutique liquors like Blue Agave Tequilas to choose from, most of the world still gets drunk on plain old beer and cheap booze. Joe Six-Pack still rules.

So without further ranting (which I hope you find at least somewhat entertaining dear reader) here is some documentation and correspondence from an English gentleman in the mid-1800’s discussing how he found, and grew to love, the Opium trade – in Peru of all places.

113 London, 10th June, 1880.

My Lord, The undersigned British merchants haying establishments on the West Coast of South America, being deeply interested in the development of the agricultural resources of the Republic of Peru, desire to call your Lordship's attention to a matter of the greatest moment in connection with this subject.

As your Lordship is doubtless aware, Peru has for some years past been making steady progress as an agricultural country, and more especially in the cultivation of sugar and cotton, the exportation of which articles to this country has rapidly increased in importance from year to year. A large amount of English capital has found remunerative employment in fostering this industry.
It is also no doubt within your Lordship’s knowledge that, owing to the peculiar conditions of the country, those concerned in the development of its agriculture have been mainly dependent upon Chinese labour for the cultivation of their estates. The chief reason for this, that the lands best suited for the growth of the sugar cane and the cotton plant are situated on the coast, the inhabitants of which region are not sufficiently numerous to supply the necessary labour.

On the other hand, the inhabitants of the mountainous region of Peru, who would find abundance of occupation on the coast and are far more numerous, are nevertheless unable to withstand the effects of the climate of the coast.

Chinese immigrants have, on the contrary, been found to thrive on the Peruvian littoral, and many thousands are now settled in that region, where they readily find employment both in agricultural and in other pursuits. Large numbers of them have acquired competencies, and it may be said that none, except those suffering from bodily ailments and infirmities have become destitute, whilst comparatively few care to return to their own country, the larger proportion remaining as permanent settlers. The majority of these were brought to Peru from Macao under the old coolie system, which was abolished in 1874 through the intervention of Her Majesty’s Government with the Government of His Majesty the King of Portugal, as it was found that that system gave rise to many abuses.

The great demand which existed and still exists for Chinese free labour brought about an attempt which was made in 1877 to establish a regular line of steamers between the ports of Hong Kong and Callao, the latter being the chief port of Peru, and situate in the centre of the agricultural district of that country.

This attempt was unsuccessful through the failure of the firm owning the line of steamers. The scarcity of labour has in consequence greatly increased, and has reached such a point that the large sums invested in sugar and cotton plantations in Peru are jeopardised through this cause.

The principal cultivators, under the denomination of the “Agricultural Society of Peru,” have therefore commissioned a gentleman now in Europe to proceed to China with the object of contracting free labourers on their behalf, and providing them with the passage money and requisites for their journey to Peru, of which Her Majesty’s Minister Resident at Lima has been duly informed.

An ambassador from the Court of Peking is now on his way to Lima, and it is thought will establish Consulates in Peru, in accordance with the terms of the Treaty of Commerce already in existence between that country and China. We have thus briefly laid before your Lordship the principal features of this important subject, our object being to solicit the countenance and support of Her Majesty’s Government in facilitating the free emigration to Peru of labourers, both from the British colony of Hong Kong and from ports in the Chinese Empire.


Edinburgh, August 6th 1882.

H. H. SULTZBERGER, Esq.

Dear Sir, – I am obliged by yours of yesterday, and should be glad to hear at your entire convenience how you like my translation. My experience of the Chinese was acquired in Australia some twenty-five years ago. I was then conversant with prepared opium as an article of merchandize imported from China for the use of the Chinese.

It was a dark-coloured viscous fluid, somewhat resembling treacle, and was contained in small metal packages covered outside with paper wrappers, inscribed with Chinese characters. The contents might be about from four to five ounces, and the wholesale importer’s price, if I remember right, was about 30 – 32s. for that quantity. I have often sold it to the Chinese dealers, amongst whom there were many highly respectable and very intelligent men.

They assured me that the use of opium, except in excess, was not injurious, and although a considerable quantity was at that time imported and consumed among the Chinese population, I never heard of its doing any harm. If death had been in any case caused by it, the Coroner would have had something to say on the subject, and the public would have heard all about it.

Considering the low rate of wages current in China, it seems to me that opium must be unattainable by the bulk of the population on account of its costliness, and that this fact must be a powerful check on any tendency to excess. I think your Lima correspondent is right in saying that the use of opium by the Chinese is very analogous to that of tobacco amongst Europeans, neither better nor worse.

I remain, yours truly, R. WAUGH MACARTHUR.
The above referred-to Lima correspondence runs as follows:

Lima, June 24th, 1882.

Dear Sir, – Replying to your private letter I have to say that as far as my practical experience goes with our Celestial customers, I do not believe that they are the worse, either physically or mentally, for their habit of smoking opium, except in very rare cases where through excess the habit has developed into real vice.

I have on many occasions discussed this question with the leading Chinese merchants of Peru, and I have always been assured by them that the habit is not deleterious. Employers of Chinese labourers all along the Peruvian coast allow their men a moderate use of the drug, and facilitate even its sale to them, which they certainly would not do if it impaired their energies.

In my own opinion the use of opium by the Chinese labourers can be fairly compared with the use of tobacco by Europeans,


THE OPIUM TRADE WITH PERU

Under this heading I must give a short account of my own experience in the article, because I had the rare advantage of being the very first engaged in this particular trade with Peru. While a pupil in one of the numerous educational establishments in and near Geneva (Champel Venel) during the years 1849-50, an intimate friendship sprung up between one of the masters there and myself, in consequence of which I procured him the means of undertaking the journey to Peru, whence he was offered the post of private tutor in a family of position, residing in Lima, on condition of risking the journey at his own expense.

From mere family tutor my friend soon rose to the position of secretary to his wealthy master, and through taking also an active part in the business of the same, whenever not engaged in his educational duties, he was finally admitted a partner, and thus became a most enterprising merchant.

At first his principal's chief business consisted in the importation into Peru of Chinese Coolies from Macao, which circumstance afforded my friend an early opportunity to acquaint himself with the Chinese habit of opium-smoking, and soon induced him to ask me for a trial shipment of one or two cases of that drug as a small venture on joint account, which turned out so exceptionally profitable that I repeated the operation at frequent intervals, and on an increased scale, when the matter attracted the attention of his principal, and the business, from a joint speculation between ourselves, changed into regular orders from the firm to be executed by me on the system of commission business pure and simple.

The importation of these Chinese Coolies having taken a rapid development, my orders too steadily increased, and soon attained such importance that without this intervention on the part of the firm, we never could have kept pace, between ourselves, with this ever increasing demand. While at first the article was admitted entirely free, it soon became subjected to a pretty heavy duty, when my packing instructions assumed such a peculiar character, as to leave me no doubt whatever respecting their real object, and years afterwards I learnt from my said friend, when on a visit to this country, that not one-fifth part of the opium consumed in Peru was properly declared at the Custom House there, but “was got through somehow or other”.

The effect of this systematic “evasion of the duty,” as my friend called it, probably because the word “smuggling” was not to his taste, was that the duty was lowered to one-half of its original rate, when the effect following this change took everybody completely by surprise. Lowered still further, and to such a point as to render smuggling no longer worth risking, the result was another considerable increase in the receipts of the Peruvian Exchequer. The business now had assumed an importance such as to attract the attention of several other firms, and owing to this competition it lost considerably of its former profitableness.

Some Chinese merchants, too, having settled in Lima, a good portion of the supplies of the drug was now imported by them from China, via San Francisco, which rendered it rather difficult to keep any longer a true record of the trade in this article with Peru.

However, by putting this down somewhere between 120 to 150,000 lb. per annum, previous to the breaking out of the war with Chili, I think I am not far from the mark.

During the worst period of this protracted and most ruinous struggle between the two sister Republics, the exports of opium from here to Peru, though at times entirely suspended for a month or two, yet never fell below the figure of 40,000 lbs per annum, from which undeniable fact I draw the conclusion that “coute que coute,” John Chinaman – in Peru at least – must have his pipe of opium.

Considering that before the war, with the exchange on London at 30d. per sol, or thereabouts, the selling price of opium averaged only from 7 soles to 9 soles per lb., it looks all the more surprising to see him pay gradually up to say 90 soles and even 100 soles per lb. for the article, after the rate of exchange had fallen, and if it be true, as I was assured by a presumably well-
informed friend that, notwithstanding this unprecedented depreciation in the value of the paper currency of the country, John Chinaman’s wages out there are now very much the same as before the war, the wonder really is that he should be able to manage at all to remain true to his pipe.

To my knowledge there never was any attempt made in Peru to “prohibit” the importation of the drug, which most likely may be accounted for by the entire absence out there of those well-meaning missionaries who think that John Chinaman cannot take care of himself, and who, with respect to this article, manage to see things which, to less fantastic observers, simply remain invisible.

On the other hand we see that those most directly interested in getting all the work they can out of John Chinaman, i.e., his employers, actually “facilitate” the sale of this so-called deadly poison to him. When we consider that a rapid rise in the cost of the drug, up to ten and even twelve times its former price, only partly affects the consumption of the same, it is obvious that no amount of “duty” is ever likely to do so; but, at the loss of the Custom House, is sure to benefit those who are spirited enough to run the risk of “quietly evading such duty.”

As I thought it useless even to try to obtain any information respecting the death rate amongst the Chinese in Peru, I will attempt to make a rough guess at it by way of comparison, and thus I would simply record the following three facts:

1st. That the wholesale importation of Chinese Coolies from Macao, as shown by the document reproduced at foot, has entirely ceased ever since 1874.

2nd. That the “free immigration” of Chinese from San Francisco, on account of the very costliness of this route, can hardly be worth while being taken into consideration.

And 3rd. That abstraction being made of the very worst period of the war, the consumption of the drug keeps on a wonderfully regular scale, from all of which it may be fairly concluded that this “death rate” cannot possibly be anything extraordinary.

Yours faithfully, G. A. B. H. SULTZBERGER, Esq.

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Tags: Andes, British Empire, China, Chinese immigration, Chinese laborers, Drug Cartels, drug smuggling, Opium, Opium Smoking, opium trade, Opium Wars, Peru, War On Drugs | Permalink.

Coca Leaf As A Travel Necessity

I enjoy re-reading my collection of old books on Coca because no matter how carefully I pay attention to the rich treasure of history and thought they represent, my mind is always drawn to whatever aspect of the current quest is most important, thus passing over information and insight that, in retrospect, was as vital and interesting as the object of the initial quest.

So it is with this passage from “The History of Coca” by Dr. Golden Mortimer (1912). Buried deep in Chapter Seven, this passage not only describes the diverse ways in which the indigenous people of the Andes use Coca to sustain themselves while journeying through the high mountains, it also offers the careful reader some fascinating insights into the world that these people inhabited in the past – the same world where they live their lives to a large extent today, in spite of centuries of outside interference and exploitation.

For example, the brief note that while in the process of mining silver the women charged with evaluating each piece of ore brought to the surface could, at a glance, tell how much silver the piece contained and if it was less than 20%
silver, down the mountainside it went and onto the trash pile. 20% silver! Of course this isn't news to modern-day miners who have worked these "trash piles" for many years, but it does give you an idea of how rich the original mother lodes were, and how expert and intuitive the women were whose job was to sort the keepers from the rejects.

And then Dr. Mortimer goes on to note that men could do exactly the same sort of quick sort as they walked through a Coca patch. With just a glance, and using who knows what other senses, the man could tell immediately which plants would yield the highest quality Coca Leaf and which were destined to be not worth further effort. I have to wonder if that ability persists today among the indigenous Coca growers of the Andes, or if it has been lost and replaced by technology.

Finally, because this post contains multiple references to the use of “Lime” in the chewing of Coca Leaf, it seems a good place to reiterate that we are talking about calcium carbonate as in limestone or seashells, not as in Margaritas and Key Lime Pie. Just a small point to keep in mind should you be fortunate enough to find yourself in possession of some fine quality Coca leaf.

(Excerpt from Chapter VII in “The History of Coca"

The Indians chew Coca just as they do everything else, very deliberately and systematically. The mouthful of leaves taken at each time is termed acullico, or chique, which is as carefully predetermined as would the skilled housewife apportion the leaves of some choice bohea intended for an individual drawing. In preparing the chew the leaf is held base in between the two thumbs, parallel to the midrib, the soft part of the leaf being stripped off and put in the mouth. From the constant presence of this quid through many years the cheek on the side in which it is usually held presents a swollen appearance known as piccho. It is an error to suppose that the Indian journeys along and plucks the Coca from bushes by the wayside to chew, for the leaf must be carefully picked, dried and cured, and, just as tobacco or tea or coffee has to undergo certain processes before ready for consumption, so the full property of the Coca leaf is only developed after a proper preparation. Usually carried in the chuspa, or huallqui with the leaves, or fastened to it outside, is a little flask or bottle made from a gourd and called iscupuru, The word is not Quichua, but belongs to the dialect of the Chinchaysuyus along the banks of the Marañon. The Spanish authors termed it poporo. In this gourd is carried a lime-like substance made from the ashes left after burning certain plants or by burning shells or limestone. This, which they term llipta, or llucta is intermixed with the leaves when chewing by applying it to those in the mouth with a short stick dipped into the gourd from time to time. After this application the lime left on the stick is wiped about the head of the gourd in an abstracted way, leaving a deposit of lime which increases with time, for the Indian never parts with his poporo. M. Gaugnet presented M. Mariani with a poporo, brought from Colombia, a cast of which in my possession well represents this formation.

The operation of chewing is termed in Bolivia and Southern Peru acullicar while in the North it is called chacchar. The llipta is made in different localities from various substances; in the South from the ashes of the algarroba, the fruit of which has an immense reputation as an aphrodisiac, the mass being held together with boiled potatoes, while in the North quicklime is used, and in some of the Montaña regions ashes of the musa root or that of the common cereus are employed. The ashes of the burnt stalk of the quinoa plant, Chenopodium quinua, mixed with a little lime, is the ordinary preparation. In Caravaya the llipta is made in little cone-like lumps; in other places it is found in flat dried cakes, which are scratched into a powder with a stick as it is required for use. Tschudi mentions the use of sugar with the leaves, but this must have been a European innovation which was supposedly an improvement, but not warranted by local customs. In Brazil, Coca – or ypadú as there termed – is powdered and mixed with the ash of Cecropia palmata leaves.

Ernst has traced the derivation of a number of the terms which are applied to the use of Coca among the Colombian Indians. These have been built up from the name of the gourd used to carry the lime or from the little sack in which the leaves are carried, which is always worn by the Indian. Thus the Chibchas term the alkali anna, which signifies a bluish lime.

Dr. Monardes speaks of the use of tobacco combined with Coca and says of the Indians: “When they will make themselves to be out of judgment they mingle with the Coca the leaves of the tobacco, at which they totter and go as though they were out of their wits, or if they were drunk, which is a thing that doth give them great contentment to be in that sorte.” Tobacco is still mixed with Coca by some of the Colombian Indians, but it is doubtful if such a mixture alone would produce the effect described. The hallucinations and narcotic action attributed by early writers to Coca are largely confusional from imperfect facts. Some of the Indians gather the leaves of a plant they term huaca or huacacachu. It is a running vine with a large obvate leaf, pale green above
and purple beneath, growing in the Montaña only upon ground where there has previously been a habitation; for what is now an apparent virgin forest it is thought may three or four hundred years ago have been thickly inhabited. No scientific facts are known regarding this leaf as far as I could learn after submitting specimens of it to several of our leading botanists. The Indians term so many things huaca – which is a name they apply to anything they consider sacred – that it is very difficult to determine simply from the name. Von Tschudi probably refers to this leaf in what he describes as bovachero, or datura sanguinea. Several writers refer to the use of this leaf as a remedy for snake bite and against inflammations. A liquor is prepared from the leaves which the Indians term tonga, the drinking of which, they believe, will put them in communication with their ancestors, and from its strong narcotic action perhaps it may. Tschudi describes the symptoms observed in the case of an Indian who had taken some of this narcotic. “He fell into a heavy stupor, his eyes vacantly fixed on the ground, his mouth convulsively closed and his nostrils dilated. In the course of a quarter of an hour his eyes began to roll, foam issued from his mouth, and his body was agitated with frightful convulsions. After these violent symptoms had passed off a profound sleep followed of several hours’ duration, and when the subject recovered he related the particulars of his visit with his forefathers.” Because of this superstitious property the natives termed huaca “the grave plant.”

The Indians have fixed places along the road where they rest and replace their chews of Coca. Usually it is in some spot sheltered from the wind; and if near one of these retreats, they will hurry until reaching there, where they may drop exhausted, and after resting for a few moments will begin to prepare the leaves for mastication. In about ten minutes they are armado – as it is termed, or fully prepared to continue their journey. The distance an Indian will carry his ccepi – or load, of about a hundred pounds, under stimulus of one chew of Coca is spoken of as a cocada, just as we might say a certain number of miles. It is really a matter of time rather than distance, the first influence being felt within ten minutes, and the effect lasting for about three-quarters of an hour, during which time three kilometres on level ground, or two kilometres going up hill, will usually be covered. Although the roads are marked out with league stones, the exact number of miles these represent is a varying quantity, and travelers soon fall into the local habit of computing distance by the cocada as more exact.

These ccepiris – or burden bearers, which is the Quichua term or cargaderos – as they are termed on the coast, commonly travel six to eight cocadas a day without any other food excepting the Coca leaf used in the manner as indicated. It is not at all unusual – as related by numerous travelers – for a messenger to cover a hundred leagues afoot with no other sustenance than Coca. The old traditional chasqui, or courier, who has been continued since the time of the Incas, is still given messages to carry on foot rather than by horse or mule. He always carries a pack, which is fastened on his back and to his head also, leaving both arms free; and where the road is so steep that he cannot walk he will scramble along on all fours very rapidly. When the Indians come to their resting place they throw off their burdens and squat down, and the traveler might just as well decide to rest here as to attempt to go on. All persuasion would be just as useless to induce a resting Indian to proceed as it would be in the case of their favorite beast of burden, the llama, which is as unalterable of purpose as is his master.

The amount of Coca that is used by an Indian in a day varies from one to two handfuls, which is equivalent to one or two ounces. The leaves are not weighed out, but are apportioned to each man in accordance with the amount of work that is to be done. As an extensive operator in Peru expressed it to me, “the more work the more Coca,” while conversely, the more Coca the more work they are capable of doing. If the placid calm of an Indian is ever ruffled, it is only manifest through his taking an extra chew.

Away up in the cold and barren regions of the mountains wood and brush are too scarce to supply fuel, so the dried droppings of the llama are used instead; and as no one ever thinks of having a fire in this region merely for the purpose of keeping warm, this fuel is only used for cooking and necessity soon corrects any over-fastidiousness in the epicure. One of the remarkable peculiarities of the llama is that the beast deposits this mountain fuel always in the same places; a whole herd will go to one fixed spot, and so greatly lessen the labor of gathering the dung. In some of the particularly dangerous passes in the mountains there are rude crosses erected, which have been set up by the missionaries to mark the piles of sacred stones of the early Incan period. These stone piles are often far removed from loose stones, which must be carried for a long distance in anticipation of adding to the heap.

As the Indian makes his offering he also expects all travelers as they pass to make a like obeisance to the god of the mountain, expressive of gratitude for a journey that has been safe thus far, and imploring a favorable continuance. Often these places are decorated with little trinkets, which are hung upon the arms of the cross or thrown upon the pile of stones. Any object that has been closely attached to the person is offered;
sometimes this may be even so simple as a hair from the eyebrow, but commonly the cud of Coca is thrown
against the rocks, the Indian bowing three times and exclaiming 'Apachicta' which is an abbreviation of the
term Apachicta-muchhanni “I worship at this heap,” or “I give thanks to him who has given me strength to
endure thus far.” The offering is made to Apachic, or Pachacamac, of whom the stone pile is an emblem. It is a
curious fact that diametrically opposite on the globe, in that portion of Chinese Tartary where the priests are
called Lamas, offerings are made by the natives to similar stone piles which are there termed obos.

Arduous as may be the task of the cargo bearer, the severest trial the Indian is subject to is mining. They
commence this labor as boys of eight and spend the greater part of their lives in the mines. These places are
wet and cold, and the work is very hard. In getting out the ore the workers must use a thirty-pound hammer
with one hand, while the carriers are obliged to bear burdens of about one hundred and fifty pounds up the
steep ascent of the shaft to the surface. This mining is continuous, being carried on by two gangs of men, one of
which goes on duty at seven at night, working until five in the morning, when, after a rest of two hours they
continue until seven at night, and are then relieved by the other party. Some of the silver mines employ
thousands of operatives, both men and women, the men working in the mine and the women breaking and
sorting the ore which is brought to the surface. Unless there is at least twenty per cent, of silver in the ore it is
cast aside; and these women are so expert that as they break the stones into small pieces they determine
instantly how it shall be sorted.

A similar cleverness is shown on the part of the Indians who select the Coca or cinchona plants. They will walk
rapidly through a nursery and determine at a glance the value of individual plants or of the whole field without
apparent hesitation. The Indians do not always select mining through choice, but are almost driven to it
through the influence of the authorities. They have a dreadful fear of temporal powers and dare not disobey,
even though their inclinations might suggest that they were born agriculturists. But these people have no
inclinations; they have always been taught to do as commanded. It is suggestive of an instance I once met with
when a physician, in reprimanding his colored servant, asked him why he did a certain thing, to which the poor
fellow started to explain by “I thought.” “Thought!” said the doctor – “there you go thinking again; you have no
right to think!” And so it is with these poor Indians; they can have no opinion, they have no right to think.

The Incas did a prodigious amount of work in their mining efforts, which, even if primitive, were forcible and
effective. A system of waterways, similar to the extensive aqueducts of the coast, was made use of to conduct
these operations, and several of these canals still exist, some many miles long. They are from three to five feet
wide, and five to eight feet deep; in places cut through the solid rock, and in others, when over a porous soil,
they are lined with sandstone. Numerous smaller ones were extended from the main canal, generally ending in
reservoirs, from which sluice gates might be opened to permit the pent-up volume of waters to suddenly rush
down a hill, carrying with it hundreds of tons of golden gravel. At the same time other streams were run along
the base of the cliffs, undermining them, and by this ancient method of hydraulic mining, continued through
centuries, whole mountains have been washed away. At Alpacata, in the upper part of Aporoma, at an elevation
of seven thousand five hundred and fifty feet, is still to be found one of these old canals, together with the
huge tanks for storing water, in a fair state of preservation.

An engineer, extensively interested in mining interests, who spends several months of each year in Peru, has
described to me the peculiar methods followed by the Indians, who sometimes conduct their gold washings in
the streams to their own profit. Selecting a part of some river bed that is left without water during the dry
season, the Indian paves it with large sloping stones, forming a series of riffles. When the freshets of the rainy
season cause the stream to rise and overflow these paved spots, any gold carried down is caught between the
stones and is gathered during the following dry season. The annual returns from such farms are almost exactly
the same each year, so that the Indian may count with as great accuracy on the yield of gold from his several
mining chacras as he would upon the products of his corn or Coca fields. This primitive form of mining is still
carried on to a limited extent, and these gold farms are handed down from father to son as regular property.
The Indians appear to have an intuitive and very accurate knowledge of the relative richness of the various
streams, but their natural reticence makes it extremely difficult to gain this information from them.
Coca Leaf And Metabolic Fire

Editor's Note: Not everyone in the scientific community is completely ignoring the medical potential of Coca Leaf, as evidenced by the following article in the Indian Journal of Clinical Biochemistry from 2010.

While the findings of this study on the effects of Coca Leaf on altitude sickness are quite modest and do not begin to reflect the enormous range of healing potential of Mama Coca's gift to her people and, through them, to all of Earth's people, it is studies like these that will ultimately lay the foundation for refuting the propaganda of the ruling classes and their pet monkey experts who have spent many generations and literally billions of dollars creating the illusion that the Coca plant and its products are a great evil to be eradicated without mercy.

In spite of such fools, the spirit of Mama Coca continues to thrive, and will ultimately regain her rightful place in the healing apothecary of natural plants.

Before looking at this contemporary research into Coca Leaf and altitude sickness, it's worth remembering that physicians and scientists in the 1800s already knew of these benefits of Coca Leaf and used that knowledge to go far beyond simply documenting that, yes, Coca Leaf does the job.

After all, altitude sickness is really the manifestation of the impact of oxygen deprivation on human metabolism, and the scientists of the 1800s were studying the impact of Coca leaf on metabolism from many different angles. The original studies included in “The Coca Leaf Papers” are rich with references to the beneficial metabolic impact of Coca Leaf on many conditions and diseases – not just its role in helping people function remarkably well at high altitudes. In my mind, by far the most valuable contribution of this contemporary research is contained in the last paragraph. “It is also possible that the beneficial effects of chewing coca leaves are related to the flavonoids found in the coca leaves and not because of release of the cocaine.” Could it be any more clear that the healing properties of Coca Leaf are NOT about the Cocaine in the leaf but about the whole properties of the leaf? The leaf is the gift – not the single alkaloid. For those who understand – enough said.

To access the seminal research from the 1800's you can either buy “Coca Leaf Papers” for $2.99 (thank you!) or, if you don't want to buy the ebook I'll give it to you free simply because I believe that its important that people have this information regardless. Just go to the “Request A Free Book” page on this blogsite.

I have chosen not to abbreviate the original research here, and have provided all of the data tables in a format that is easily legible. My apologies to any reader who prefers the Twitter format with a limit of 140 characters to any thought. This post, like most of the posts on PanaceaChronicles, is intended for those who don't mind the effort of reading for comprehension.


Does chewing coca leaves influence physiology at high altitude?

Casikar V, Mujica E, Mongelli M, Aliaga J, Lopez N, Smith C, Bartholomew F.

Abstract

Andean Indians have used coca leaves (Erythroxylon coca and related species) for centuries to enhance physical performance. The benefits and disadvantages of using coca leaf have been a subject of many political debates. The aim of this study was to investigate the effects of chewing coca leaves on biochemical and physiological parameters. Cutaneous microdialysis catheters were used to estimate systemic biochemical changes. We subjected 10 healthy adult males (local residents) in Cajamarca (Peru, altitude 2700 m) to a standardised exercise routine on a stationary cycle ergometer. The blood pressure, oxygen saturation (digital), pulse, VO2 max and ECG (Holter monitor) were recorded before the exercise. Cutaneous microdialysis catheters were introduced in the forearm. The subjects were given to chew 8 g of coca leaves with a small amount of lime. They were then placed on the cycle ergometer for 20 min. Blood pressure, oxygen saturation, pulse, ECG and VO2 max were recorded. Pyruvate, glucose, lactate, glycerol and glutamate levels were estimated. Oxygen saturation, blood pressure, and pulse rate did not show any significant changes between the two groups. Glucose levels showed hyperglycaemic response. Glycerol, Lactate and Pyruvate increased. Glutamate remained unchanged. Similar changes
were not seen in the controls. These results suggest that coca leaves have blocked the glycolytic pathway of glucose oxidation resulting in accumulation of glucose and pyruvate. The energy requirement for exercise is being met with beta-oxidation of fatty acids. The glycerol released was also getting accumulated since its pathway for oxidation was blocked. These experimental findings suggest that chewing coca leaves is beneficial during exercise and that the effects are felt over a prolonged period of sustained physical activity.

Introduction

Andean Indians have used coca leaves for centuries to enhance physical performance. The modern methods of obtaining cocaine were not known to the Andean culture. The benefits and disadvantages of using coca leaf had been a subject of many political debates. Spielvogel et al. [1] and Favier et al. [2] have reported the physiological benefits of coca leaves. The latter concluded that the beneficial effects of coca chewing on exercise tolerance were not related to either improved maximal exercise capacity or increased work efficiency. The beneficial effect on fatty acids was alluded to in their report. Hanna 1971 [3], concluded that heart rates and oxygen intake were not significantly different between those who chew coca and those who do not. Carter and Mann [4] have demonstrated, through a study of over 3,000 leaf users, that mine workers, the largest consumers, chew an average of 13 oz a week, i.e. extracts an average of 3.9 net grams of alkaloids per week. Therefore, the theoretical maximum dose is half a gram, in a period of 24 h (always assuming 100% efficiency in mouth extraction).

A recent investigation conducted by Instituto Boliviano de Biologia de Altura (Gregorio Lanza) [5] disclosed that after chewing about 30 g of leaves, blood cocaine contents can be traced to around 98 ng using High Pressure Liquid Chromatography. That is 0.000000098 g!

Paracelsus [6] commented, “Every element in nature has its own poison and its antidote as well. There is a need to revert to the natural sources for remedy.” We would like to make a distinction between chewing coca leaves by the Indians of Andes and using cocaine as a recreational drug by the western cultures.

The aim of this study was to investigate the effects of chewing coca leaves on the biochemical and physiological parameters. Based on our earlier experience with the biochemical changes at high altitude [HA] [7], we decided to study the biochemical parameters as markers of adaptation to HA. Cutaneous microdialysis is now known to reflect systemic biochemical changes [8, 9]. We chose to use this technique as it is relatively non-invasive and it is possible to monitor the changes continuously over a long period of time.

Materials and Methods

The Ethics Committee, Andean Institute of Andean Biology, Lima, Peru, approved the study protocol.

We subjected 10 healthy adult males (local residents) in Cajamarca (Peru, altitude 2700 m) to a standardised exercise routine on a stationary cycle ergometer. The blood pressure, oxygen saturation (digital), pulse, VO2 max and ECG (Holter monitor) were recorded before the exercise. Blood samples were drawn to estimate the hormone levels (testosterone and progesterone). Only four of the subjects who chewed coca leaves agreed to give two blood samples. All the controls were happy to provide the blood samples.

Cutaneous microdialysis catheters (Mfg. CMA Microdialysis AB, Sweden) were introduced in the forearm and attached to the pump. At the end of 20 min the perfusate sample was collected. The subject was given to chew 8 g of coca leaves. They were then placed on the exercise machine for 20 min. The rate of revolution was maintained between 80 and 100 cycles/min. At the end of 20 min, the perfusate of the microdialysis was collected. Blood pressure, oxygen saturation, pulse, ECG and VO2 max were recorded. The subjects were allowed to rest for 20 min. All the above parameters were again recorded and the perfusate was collected. The subjects were again reintroduced to the exercise program. This cycle was repeated eight times. The subjects were chewing the coca leaves during the entire period of the experiment.

Four adult male subjects who were also residents of Cajamarca were used as controls. The same exercise routine was followed, but these did not use coca leaves. The VO2 max in sub-maximal exercise was measured in cycle ergometer by the Fox test. The values were calculated using the Fox equation for men (VO2 max = 6.3 - 0.0193 × FC). The values were corrected by the factor for the age. Pyruvate, glucose, lactate, glycerol and glutamate levels were estimated in the microdialysis samples using the standard analyser provided by the company. The values of three subjects who had used coca leaves were excluded, as the volume of the perfusate was insufficient due to improper placement of the catheter.

Statistical Analysis

The changes in serum analyte measurements during the experiments were computed from start to finish of each test period for each subject. These were calculated as a net change and also as a percentage change as follows:

\[
\text{Percent Change} = 100 \times \frac{\text{finish} - \text{start}}{\text{start}}
\]

Positive values indicate an increase in value. Differences in baselines between test and control groups were tested using the Mann--
Whitney U-test. Mean differences in change between exposed and control groups were tested using Mann–Whitney U-test at a significance level of 0.05. All calculations were carried out using statistical software (SPSS for Windows).

Results

Oxygen saturation, blood pressure, and pulse rate did not show any significant changes between the two groups. The ECG recording (Holter monitor) did not show any changes during the entire period. The VO2 max (ml kg\(^{-1}\) min\(^{-1}\)) was 53.02 ± 3.06 in the coca chewers (Table 1). Among the non-chewers, it was 66.59 ± 6.33 (Table 2). The differences were not statistically significant. The aerobic capacity (VO2 max) was classified as either excellent or average according to the classification of American Heart Association 1972 [11].

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<thead>
<tr>
<th>Table 1</th>
<th>VO2 max in coca-leaf chewing group</th>
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<td>No</td>
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<th>Table 2</th>
<th>VO2 max in control group</th>
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<td>No</td>
<td>Age</td>
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The changes in the biochemical parameters are shown in Tables 3 and 4. The glucose levels showed a hyperglycaemic response to coca chewing even after the exercise was completed.

Table 3
Absolute changes in analytes
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<th>Table 3 Absolute changes in analytes</th>
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<td><strong>Glucose</strong></td>
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<td>Controls 4</td>
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<td><strong>Uric acid</strong></td>
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<td><strong>Osmolality</strong></td>
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<td>Cases 6</td>
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<td>Controls 4</td>
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<tr>
<td><strong>Lactate</strong></td>
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<td>Cases 6</td>
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<td>Controls 3</td>
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<td><strong>Pyruvate</strong></td>
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<td>Cases 6</td>
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<td>Controls 3</td>
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* P < 0.05 (Mann-Whitney U test)
The glycerol values showed accumulation at the end of the second episode of exercise. This was seen in two of the control subjects as well. The pyruvate was seen accumulating in almost all the coca-chewing volunteers. Two controlled subjects also showed pyruvate accumulation, but to a lesser degree. The lactate was getting progressively accumulated in volunteers chewing coca. There was also an accumulation of lactate in the controls, but the magnitude was not as high as in those who were chewing coca leaves. The glutamate values were more or less unaffected among the coca chewers. It showed a significant increase in the controls.

**Discussion**

The purpose of this pilot study was to determine if there were any subtle biochemical changes, which were influenced by chewing the coca leaves. Standard methods of assessing a person’s response to continued exercise such as blood pressure, pulse rate, VO2 max and ECG changes did not show any significant changes between the two groups.

The experimental findings suggested that chewing coca leaves induces biochemical changes that enhance physical performance at high altitude. These changes appeared sustained and were detectable at the later stages of the experiment.
During normal short-term exercise carbohydrates are the primary source of energy. In this situation the respiratory quotient (RQ) remains near 1. The glucose, glycerol and pyruvate did not accumulate as they were utilized as soon as they were formed. However, lactate accumulated as its utilization by the liver in re-conversion to glucose and glycogen lagged behind. This was probably taking place during the resting period.

Under endurance of long-term exercise the carbohydrate reserves being small the energy source is switched over to fatty acids and fats. The RQ under this condition is below 1. The fats are hydrolysed into fatty acids and glycerol. The glycerol enters the glycolytic pathway and metabolised to glycerol pyruvate pathway. The fatty acids undergo beta-oxidation entering Krebs cycle as acetyl-coenzyme A.

It seems that coca leaves have blocked the glycolytic pathway of glucose oxidation at the Pyruvate Dehydrogenase level resulting in accumulation of glucose and pyruvate. The energy requirement for exercise is being met with beta-oxidation of fatty acids. The glycerol released was also getting accumulated since its pathway for oxidation was blocked.

These experimental findings suggest that chewing coca leaves gives a beneficial effect during a performance of exercise and that the beneficial effects are felt over a prolonged period of sustained physical activity. Perhaps this gives the users energy to function at a sustained level over long periods of time.

Lipid fuel sources are energy substrates during prolonged exercise of moderate intensity. Plasma and muscle triglycerides and free fatty acids make a significant contribution to lipid metabolism. Grant [11]. The individual contribution from each of these towards skeletal muscle mechanism is discussed in detail by Turcotte [12].

Aerobic Glycolysis is a major producer of usable energy during high endurance physical activity. The aerobic Lipolysis provides energy through Krebs cycle during sustained low levels of activity. The switch over from Glycolysis to Lipolysis is an adaptation to prolonged low levels of activity and efficient use of energy sources. It is possible that coca leaves have adaptogens, which are capable of influencing the switch depending on the level of activity [13, 14].

The duration of the experiment was for a period of two and half hours. Perhaps if this experiment had been continued for a much longer period the affects could have been more clearly visible.

It is also possible that the beneficial effects of chewing coca leaves are related to the flavonoids found in the coca leaves and not because of release of the cocaine. The amount of cocaine that is released in the process of these customary chewing coca leaves is extremely small and unlikely to be off any physiological benefit. Further research into the effects of flavonoids is being looked into. It is also planned to perform the field experiments on a much larger population over a longer period of time to evaluate this problem further.

References
11. Grant R. Energy systems used during exercise: online article. Articlesbase 2008; posted online Dec 3rd.
Healing With Coca Leaf: Part Two

This series of posts – this is the second – will consist of a sampling of the Coca Leaf-based remedies for a wide range of diseases and conditions explained by Dr. William Tibbles, MD in his remarkable book “Coca Erythroxylon: A Treatise On Brain Exhaustion” in 1876.

ASTHMA

This is a chronic spasmodic affection of the air passages of the lungs, which comes on by paroxysms, usually at night, accompanied by difficult and short respiration, wheezing, tightness across the chest, cough, etc.

Symptoms

There is great tightness of the chest, and intense difficulty of breathing, with a loud wheezing noise and dry cough; the patient lays hold of anything near him so that all the muscles of inspiration may be brought into action; face pallid; perspiration rolls down the brow; pulse, small and weak; and the patient in the paroxysm, appears to be on the verge of suffocation.

Causes

This affection is decidedly nervous in its origin, dependent upon muscular contraction of the fibres of the bronchial tubes; the seat of the irritation may be in the pulmonary nerves, or in the medulla oblongata, or it may be due to irritation of the gastric portion of the pneumogastric nerve. The exciting causes may be stated to be, sudden changes of temperature; disorders of the digestive organs; certain effluvia; long continued nervous depression; gout, etc.

Treatment

The sponge bath should be daily used. Give alternate doses of the Brain Feeder and Cherry Bark Cough Balsam in one tablespoonful of the following mixture:

Rp.

Coca Leaf 1/2 ounce.
Lobelia Powder ½ dram.

Black Cohosh Powder 1/2 ounce.

Composition Powder 1 teaspoonful

Pour on the above one pint of boiling water, let them stand for twenty minutes, strain, add a little sugar, and bottle for use.

Dose

Two tablespoonsful to be taken three times a day. Keep the bowels in a regular condition. Let the feet be kept perfectly dry, and avoid exposure to cold.

COUGHS

Coughs are generally the result of improperly treated or neglected colds; when they do occur they should never be slighted, but promptly and effectually met and removed, if allowed to continue, a cough may become a serious precursor of that terrible disease – Consumption.

Common Cough is the one we shall treat of here, others, such as whooping, and consumptive coughs will be considered in their respective places.

Treatment

Give a vapour bath twice a week; apply hot bottles to the feet; use all means to promote and equalize the circulation of the blood. And, as the cough is the result of deficiency of nerve force, all means, medicinally, must be used to raise the vital power of the patient. Give a dose of the Brain Feeder twice a day; and likewise a dose of the Cherry Bark Balsam twice a day in decoction of Yarrow and Pleurisy Root; keep the temperature of the room as equable as possible.

Let the patient have a sponge bath every morning on rising from bed. The patient should drink freely of the Compound Essence of Cocaine, and take two or three of the Chionanthus Liver Pills daily. If the patient be under twelve years of age give, as a medicine, doses of the Child's Restorer in marjoram tea, and the Cherry Bark Balsam twice a day. He should have warm baths on going to bed; and in the morning cold sponge baths.

Or the treatment (medicinal) of a common cough may consist of the following:

Rp.

Pleurisy Root bruised ... 1 ounce.

Liquorice Root bruised ... ¾ ounce

Boil in one and a half pint of water for five minutes, then add

Slippery Elm bark 1 ounce.

Boil again for ten minutes, then strain the boiling liquid on to the following ingredients:

Coca Leaf 1/2 ounce.

Lobelia Herb powder ... 1/2 teaspoonful.

Composition powder ... 1/2 teaspoonful.

Let them stand 15 or 20 minutes, strain, bottle.

Dose

For a child, one to two teaspoonsful according to age; for an adult, one to two tablespoonsful to be taken every
two, three, or four hours, according to the severity of the complaint.

Perseverance with the above medicine, together with careful attention to the general directions laid down will, in all cases, speedily result in the desired end – the cure.

HOOPING COUGH

This is a contagious and infectious disease, characterized by a peculiar cough – termed a hoop – occurring in fits, usually terminated by vomiting. It is caused primarily by the action of a specific poison on the system of nerves presiding over the functions of respiration. It is a disease of childhood and most frequently occurs between the ages of four months and six years.

Symptoms

The patient is usually attacked with fits of violent, rapid, interrupted coughing, alternating with long-drawn, shrill, crowing inspirations; the seizure usually ending with the expectoration of a thick, glairy mucus, or in actual vomiting. During the fits the features become red, or bluish, the eyes start, and the child appears to be threatened with instant suffocation. It is a disease which generally runs a certain course, and rarely attacks the same person twice; it may coexist with other diseases, such as small-pox, measles, etc., but it also sometimes disappears on the appearance of an eruptive disease. Treatment. Many cases of hooping cough are so mild as to need no other treatment than hygienic care, and a proper regard to the temperature of the room the child occupies in the cold seasons of the year.

In children over three years of age the disease is usually slight and regular. The following medicine is excellent in all cases of hooping cough;

Rp
Pleurisy Root, bruised ... 1 ounce.

Boil in half a pint of water for ten minutes,

Pour the boiling liquid on to Black Cohosh powder ... 1 ounce.

Let it stand until cold, strain, and

Add two tablespoonsful of the Cherry Bark Cough Balsam; mix well.

Dose

Half a teaspoonful to two teaspoonsful to be taken every two or three hours. The quantity regulated according to age.

A strong tea of red clover heads and leaves is a good thing in severe cases of hooping cough.

Where the little patient is emaciated, friction over the whole surface of the body with warm olive oil will be found to aid in the support of the body.

In winter the child should be kept in an equable temperature, but with free ventilation; its diet, milk and bread, raw eggs, ripe fruit; no sugar if the patient has been weaned; if it is still at the breast the mother must live on good nourishing diet. Olive oil will be found an excellent aperient for children suffering from this disease.

Or, following the general directions, give the patient doses of the following mixture:

Rp.

Coca Leaf 1/4 ounce.

Clover Leaf and Heads 2 ounces,
Black Cohosh Powder ¼ ounce

Pour on to these ingredients half a pint of boiling soft water, let them stand for twenty minutes, strain, add a little sugar if necessary

Dose: One to three teaspoonsful, according to age, to be taken every three hours.

CROUP

This disease is confined to childhood. It is one of the most alarming diseases to which children are subject, being sudden in its attack, and rapid in its results.

Causes

The application of cold is an exciting cause, and, as a consequence, it occurs more frequently during the winter months; damp, changeable atmosphere; insufficient clothing; epidemic miasma.

Symptoms

It is ushered in, usually at night, by a loud ringing and hoarseness of the voice, sometimes a rattling in the throat during sleep is heard. Afterward the breathing becomes rapid and difficult, and the voice husky or absent, and the breath as if passing through a narrow tube, and in speaking or coughing it acquires a shrill and peculiar sound, similar to the crowing of the cock. Quick pulse, thirst, hot and dry skin. The cough is dry, but after a time a viscid matter is brought up, and in some cases flakes or tubes of false membrane, with efforts often so distressing as to threaten suffocation.

The inflammation is peculiar, as depending on plasticity of the blood. The difficulty of breathing arises from the formation of a false membrane in the larynx, or from spasm.

Treatment

Promptness and decision are always necessary to successfully treat this disease, delay or inattention may result in a fatal termination.

When the symptoms commence, give, as soon as possible, closes of the following mixture:

Rp.

Blood Root, in powder 1/4 ounce.

Pour on this half a pint of boiling water, let it stand for ten minutes, strain

Add two teaspoonsful of Compound Essence of Cocaine. Keep it warm.

Let the patient drink one or two teaspoonsful every twenty minutes.

Apply externally, to the throat a flannel wrung out of the following mixture:

Hot Vinegar 4 ounces

Compound Essence of Cocaine one tablespoonful, mix, keep it warm

Change the flannels every five or eight minutes. Continue this treatment until the urgent symptoms are somewhat abated, the medicine may then be given at longer intervals.

If the disease is very severe give an emetic powder. Let the patient drink freely of the Compound Essence of Cocaine in warm sweetened water.

Or, let the following treatment be carried out.

Rp.
Lobelia and Blood Root, in powder, of each 1 teaspoonful.

**Composition Powder** ... half a teaspoonful.

Pour on the above half a pint of boiling water, let them stand for ten or fifteen minutes, strain, slightly sweeten, keep warm.

**Dose**

One to three teaspoonsful every twenty minutes until the more urgent symptoms are abated.

Prepare the following mixture and apply externally: Cayenne Pepper, one teaspoonful, boiling Vinegar, half a pint, salt, a tablespoonful, mix; keep warm, and apply cloths wrung out of it to the throat. Foot baths are useful. The patient may drink infusion of Coca Leaf with advantage.
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Heavy concentrations of pesticide residues in cheap tobacco products being smoked by mothers, fathers or others in the household are likely to be a factor in the high rates of childhood Leukemia (ALL) among Hispanic and Native American children. I … Continue reading →

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I’ll skip the long, long back story and get right to the point. If you’ve been looking for a way that individuals and small groups of people acting on their own initiative can control dangerous tobacco products at the local … Continue reading →

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We laugh at the silly idea of Cannabis as a “killer weed” now, but millions believed it and happily allowed the government to send generations of people to prison because they believed it. It seems absurd that anyone would be … Continue reading →

Tobacco Product Risk Reduction
This is a comment that I’ve just submitted to the FDA asking them to enforce their own regulations and conduct appropriate testing, which has not been done to date, to determine whether all current IQOS applications are in compliance with … Continue reading →

Stop IQOS From Vaporizing The Lives Of Millions
This MoveOn.org petition urges Congress to intervene and order the FDA to suspend all IQOS applications while conducting an investigation of a previously-unrecognized public health threat represented by the IQOS system. Please click on the happy little hummingbird hovering in … Continue reading →

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Villages Can Thrive
Brief Explanation: This is a proposal for addressing protein energy malnutrition in rural communities that my friends Peter, Luis and I (we called ourselves AF&T) created a few years back as part of another, bioenergy-related project. The people we submitted … Continue reading →

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