

INSTITUTE OF CURRENT WORLD AFFAIRS

WHM - 9

Introduction to the
Coca Problemc/o M. Iberico
Casilla 208
Arequipa, Perú
May 24, 1955Mr. Walter S. Rogers
Institute of Current World Affairs
522 Fifth Avenue
New York 36, New York

Dear Mr. Rogers:

"I have observed in all parts of the West Indies, where I have been, that the natives delight in holding Herbs, roots, or twigs of trees in their mouths. Thus, in the territory of Antiocha, they use a small Herb, called coca, and other sorts in the province of Arma. In those of Quimbaya and Anzerma, they cut twigs off a sort of tender middling trees, which are always green, where-with they are incessantly rubbing their teeth. In most parts about Cali and Popayan, they hold in their mouths the aforesaid small coca, with a composition they keep in little calabashes, or else a sort of earth, like lime. Throughout all Perú, from the time they rise in the morning till they go to bed at night, they are never without this coca in their mouths. The reason some Indians, to whom I put the question, gave me for so doing, was, that it made them insensible of hunger, and added to their strength and vigor. Something there may be in it, yet I am rather of the opinion it is only an ill habit, and fit for such people as they are." 1.

"It is melancholy to reflect that the poor of Europe cannot obtain this preservative against hunger and thirst; that our working people are not supported by this strengthening plant in their long-continued labors." 2.

"Briefly the harmful effects of chewing coca leaf, from the point of view of the individual and the nation, are the following:

(1) It inhibits the sensation of hunger and thus maintains, by a vicious circle, a constant state of malnutrition.

(2) It induces in the individual undesirable changes of an intellectual and moral character. This is especially clear in exceptional cases, and it has been much discussed how far this is in general. It certainly hinders the chewer's chances of obtaining a higher social standard.

(3) It reduces the economic yield of productive work, and therefore maintains a low economic standard of life." 3.

The quotes above are a fair sampling of the arguments concerning the chewing of coca which have ebbed and flowed for the past four hundred years. Today as in 1550, people are still arguing over the beneficial or harmful effects of the coca leaf. There are as many opinions on the matter as there are experts or interested persons to voice them. Erythroxylon Coca has been condemned by the Church as an instrument for the preservation of pagan beliefs; it has been highly praised by mine and hacienda owners as a necessary stimulant for the workers. Scientists have tested its properties in clinics and have reported widely differing findings.

1. The Seventeen years' Travels of Pedro de Cieza de Leon through the Mighty Kingdom of Perú (c. 1550)

2. Perla de América, Don Antonio Julian, 16th Century

3. Report of the (U.N.) Commission on the Coca Leaf, May 1950

To help solve the riddle of coca, the Peruvian government in 1947 asked the Economic and Social Council of the United Nations to send a group of experts to this country with the purpose of studying, among other things, "the harmful or harmless effects of the coca-leaf chewing habit upon the human body in general or upon some specific organ in particular." The Commission of Enquiry on the Coca Leaf, composed of two experts in international control of narcotics, two medical experts, and a secretariat of advisers and interpreters, was sent to Perú and Bolivia in 1949. It studied the coca problem *in situ* from September 10 to December 4, of that year. In May of 1950, the Commission published its report, in which coca was condemned as being injurious to the chewers, and the fireworks began. The Peruvian government had appointed its own Commission for the Study of the Coca Problem - a body of doctors, lawyers, economists and agricultural experts headed by Dr. Carlos Monge M., famous for his work in high altitude biology. The Peruvian Commission issued a counter-reply to the United Nations group. The U.N. body was "an Investigation Commission in quest of isolated facts and not integrated scientific research on the problem", said the counter-reply. Furthermore, it did not act "as a discriminatory and analytical Commission in dealing with the totality of data which the solution of this problem demands." Whereas the U.N. Commission took the view that elimination of the plant as a crop within 15 years would solve the problem, the Peruvians wanted to carry out a lengthy experiment involving thousands of chewers before taking steps one way or another. The verbal battle raged, and the U.N., perhaps feeling uncomfortable about the hubbub caused by its Commission, decided to postpone final decision on the 1950 report for 15 years. The decision caused much disappointment among the men who had been fighting for anti-coca-leaf legislation and much delight among those who because of economic reasons, social beliefs or scientific theories upheld the continued use of coca in the country.

The object of all these arguments, name callings and masses of scientific and non-scientific papers is a squat (one to two meters high) bush which yields several crops per year of dark green, oval leaves. Chemical analysis reveals that the leaves contain Vitamin B₁, Riboflavin and Vitamin C. Also present in the coca leaf is the drug Cocaine. It is the existence of this drug which worries the medical men, for Cocaine is now recognized as being extremely harmful. Minute doses of it have caused mental disorders and, in some cases, death. Although praised to the skies in the nineteenth century, Cocaine is now shunned by doctors and dentists, who prefer the use of Novocaine or other less noxious anesthetics. Oculists still use the drug, but only in a very dilute form, for one drop of strong solution in the eye has been known to have fatal effects.

The statistics available on the Cocaine content, as well as on coca consumption, vary with each testing laboratory or researcher. In fact, one of the major difficulties encountered by the Commission of Enquiry on the Coca Leaf was the great difference in the figures. Some Peruvian scientists have quoted such a low figure with regard to Cocaine content, that the whole question of whether or not coca is harmful would appear to be ridiculous. Others, however, have stated that Cocaine is present to a dangerous degree in the leaf. One expert quotes the drug content (average) at 0.6%. Bolivian coca Cocaine content is higher than that of the Peruvian variety. Another researcher, Guiffardi, states that the average daily dosage of coca leaves varies between 50 and 100 grams, depending upon the age and physical condition of the chewer. This same expert found that the average daily ingestion of Cocaine varies between 0.160 and 0.208 grams.

If the chewing of the coca leaf were merely a habit, the solution of the problem would be an easy matter. But the roots go much deeper. In the days of the Inca Empire, coca was regarded as a sacred plant. It was used as a sacrifice, as a means of foretelling the future, as a gift to the dead, etc. Only the Inca, the nobility and the priests were allowed to indulge in the

chacchar or chewing of the leaf. Coca was a holy thing and not for the common people. With the Conquest and the subsequent degeneration of the Inca culture, coca began its steady rise in terms of production and consumption. Spaniards planted their newly acquired lands to coca when the climate permitted, and the leaf was "more esteemed than the best wheat" (Pedro de Cieza de Leon). The market was glutted with coca, and it was an easy matter for the Indians, now at liberty to chew when and how they wanted to, to buy as much as they needed. For four hundred years the harshly oppressed indios have bought or have been paid in leaves of coca. Dr. Carlos A. Ricketts (see below) told me that a few months ago the Minister of Public Health informed him that the Indians spend about 150,000,000 soles per year for coca. (roughly US\$ 7,500,000)

The superstition and awe surrounding coca exist today. Indian brujos or magicians claim that they can tell a farmer where to look for his lost cow by observing the pattern made by coca leaves thrown on the ground. Futures are foretold by the number and pattern of a handful of leaves. Spells are cast in the smoke of burning coca. Finding that it could not suppress the pagan beliefs connected with coca, the Church tried at one time to fit them into the Christian religion by telling the Indians that Mary and the Christ child ate coca during their flight into Egypt, and that the strength given them by the plant enabled them to complete their journey. According to one historian, some of the chewers adopted the practice of making the sign of the cross with a coca-quinto (a large, perfectly formed leaf) before making up the bolus and saying: "Cocacha mamacha; mamacha María santísima llantuyuscuan, cay llaquiscca sunccoycuyta a compañahuay" or "Little coca, little mother, you whose shade protected the Virgin Mary, give comfort to my sad heart".

That coca does give comfort to the sad heart is a well known fact. The altiplano is harsh beyond anything imaginable in the U.S. The strength of the equatorial sun is augmented by the rarified atmosphere, so that during the day the glare is almost unbearable. The temperature falls well below freezing every night, except for a short period during the rainy season, and the mercury drops some thirty or more degrees in a few hours. Snow and hail storms are common, and the ever-present sierra wind cuts like a knife. The Indian exists in this region with only the barest essentials of life to keep him going. He inhabits a one-room hut together with his wife, children, dogs, chickens and vermin. His diet consists of chuño or frozen potatoes, quinoa (a small-kernelled grain) corn, and perhaps a little mild curds or cheese. Meat is practically never on the menu, even in the stock breeding Department of Puno. And yet, the Indian must of necessity work his lands or those of his hacendado (hacienda owner) using the crudest of equipment. He must work in the mines at an altitude which would make a sea level man collapse with mountain sickness. Between the low level of nutrition and the high level of work requirement, there stands a huge gap. The Indian fills that gap with coca.

The method of chewing the coca leaf varies with the different regions. The basic equipment usually consists of a bag in which to store the leaves, a container holding either lime or the ashes of the quinos plant, and perhaps a small rod to administer the lime. The leaves are placed one by one in the mouth, turned slowly with the tongue until wet, and tucked between the teeth and the inner surface of the cheek, thus forming a picchu or bolus. The rod is dampened and inserted in the lime container, then inserted in the bolus, much care being taken not to burn the membranes of the mouth. If quinoa ash is used, pieces of it are sucked together with the bolus. The llipta or tocra (lime or quinoa ash) serves to sweeten the bolus and to facilitate the extraction of the alkaloids (Cocaine, etc). Each bolus is sucked until its juices are exhausted - a process usually requiring several hours - and then discarded in favor of a fresh "quid". The cheeks of older chewers are permanently distended as a result of years of stuffing them with leaves.

There are many theories as to the action of coca alkaloids ingested into the human body. No one is scientifically certain about this matter. The effects of

the one alkaloid, Cocaine, which causes the damage have been tabulated time and again. One of the first scientists to experiment in this line was Dr. Paolo Mantegazza of Milan, who published in 1860 (the year that Cocaine was isolated) the results of experiments in which he chewed successively larger doses of coca leaf. Although he was a normally well fed individual, and therefore quite different from the Peruvian or Bolivian Indian, the doctor experienced the following reactions which are characteristic among coca chewers: the chewing of one dram of leaves produced increased salivation and a feeling of "increased comfort in the stomach"; drinking an infusion prepared from three drams of the leaves produced "increased heat of the skin, palpitation of the heart, seeing of flashes, headache and vertigo. The pulse rose from 70 to 134.....there was a peculiar roaring noise in the ear, a desire to run about at large.....a peculiar, hardly describable feeling of increased strength, agility and impulse to exertion follows." After he had taken four drams, Dr. Mantegazza "was seized with a peculiar feeling of being isolated from the external world, and with an irresistible inclination to gymnastic exercise, so that he, who in his normal condition carefully avoided the latter, jumped with ease upon the writing-table without breaking the lamp or other objects upon it". After this, the doctor felt quite torpid - as who wouldn't after leaping atop a writing-table - and expressed the desire not to move a muscle for the rest of the day. Eighteen drams in one day produced a delirium in the midst of which the doctor wrote: "I would rather live ten years with coca than a million centuries without it." After three hours of sleep, however, Mantegazza was able to carry on a normal day's work, even though he had not touched food for over forty hours.

It is quite easy, in the light of the above experiment, to see that coca does produce an "anti-fatigue" and "anti-hunger" effect. The evils of those effects, as pointed out in the U.N. Commission report, stem from the destruction of the central nervous fatigue of the individual, allowing him to draw upon his reserves of strength and endurance. Sooner or later, however, he must pay for this depletion out of his metabolic balance. Coca prevents the chewer from knowing when he is really tired or hungry. When chewed in huge doses, a practice indulged in by a small minority of the sick and the aged, the effects of coca are even more remarkable. The coquero or "addict" is completely apathetic, withdrawn into a world of beautiful dreams. He becomes angry if forced to talk to or associate with another person. The late Dr. Gutierrez Noriega found that all incentive disappeared, that the coquero existed rather than lived. Dr. Ricketts of Arequipa, one of the pioneers of anti-coca-leaf legislation, told me that in his opinion the notoriously ugly crimes committed by the Indians were caused by the destruction by coca of the moral values of the individual.

Born in Arequipa in 1878, Dr. Ricketts went to England for his education, receiving his M.D. there in 1903. He has practiced in Arequipa ever since, except for a few months in 1929 when he served as Representative from Arequipa to the Peruvian Congress. Dr. Ricketts believes that coca and alcohol - the two great linked vices of the Indian population - are responsible for the present social and economic condition of the mountain people. "It is like a double-barreled gun," he told me. "Coca doesn't do too much harm to the Indian's body, but it ruins his brain. Alcohol attacks the body, ruining his innards. What is more, coca counteracts the alcohol, meaning that the coca-chewing Indian must drink more alcohol in order to get drunk."

Dr. Ricketts has carried out experiments in the Department of Arequipa and has maintained detailed correspondence with other medical men in the sierra. During his more than 30 years of research and experimentation, he has amassed some frightening figures concerning the consumption of coca, the daily dosages and percentages of Cocaine absorbed into the system of the chewers. The U.N. Commission of Enquiry quoted his writings extensively in its report, citing his views as well as those contained in the letters he has received from teachers, missionaries, doctors and hacienda and mine owners actually living in the areas of greatest production and consumption (production figures for Arequipa are nil; consumption is very low).

During one of several talks with him, Dr. Ricketts told me that coca consumption had doubled between 1929 and 1952 - from 5 million kilograms to 10 million. "This increase is occurring at a time when the world Cocaine demand is going down and down," he said. At the present time, Peru is producing enough coca to manufacture over fourteen times the amount of Cocaine necessary for legitimate world consumption." The world requirement figure stands at 71,428 kgs. That criminals within the country are supplying the dope market with "joy powder" is amply illustrated by the number of newspaper articles reporting the seizure of "stills" or the discovery in the U.S. of illegal Peruvian Cocaine.

While serving as a Representative, Dr. Ricketts convinced President Leguía that the nationalization of the industry was the best method of controlling production. Leguía failed to establish the "Estanco de Coca" and the plans for it lay idle until 1949, when the government of General Odría picked them up and created a government coca monopoly. The major fault of the newly created Estanco is that the Minister of Finance is permitted to endorse the planting of more coca whenever he sees fit to do so. To Dr. Ricketts, this clause reduces the efficiency of the Estanco to a ridiculous level. If the coca industry kicked in a large amount of taxes to the Ministry, there might be at least an economic reason for the clause. However, as late as 1950, the total tax receipts from the industry were not expected to exceed 0.23% of the national revenue.

Dr. Ricketts recognizes that coca can be useful as a stimulant when taken in moderate and occasional doses. Mountain climbers and workers in high altitudes are already using a commercial product containing a form of coca to combat mountain sickness and to tide them over periods of intense physical exertions. However, the daily use of coca - a habit practiced by the vast majority of the Indian populations of Perú, Bolivia and parts of Colombia - has, in Ricketts' opinion, created a mass of apathetic, antisocial men and women whose morals, sense of duty to family and friends, sense of responsibility, have all been radically altered by the coca leaf. There are areas in the sierra in which the Indians do not chew coca. The Adventist missions around Puno are a good example. The mission Indians neither chew nor drink aguardiente or chicha. In Ecuador, coca was made so hard to come by through a law of the fifteen hundreds restricting its sale to the large mining areas (Ecuador had no large mines) that the Indians soon forgot about the habit. As a result, many experts state that the non-chewing Ecuadorian Indian - of the same race as the Peruvian Quechua - is far superior to his southern cousin. He is more alert, more anxious to better his economic and social conditions.

Ricketts is strictly at odds with Dr. Monge, presently the director of the National Institute of Andean Biology. Monge states that he is inclined to believe that coca is of some help to Andean man in his acclimatization to great altitudes; that the Indian of the altiplano differs greatly from sea level man in biological terms and, therefore, the effects of coca chewed by Andean man would differ from those observed in a coastal chewer. In reply to this argument, Ricketts and others have pointed out that the Indians of the Inca Empire and those of Ecuador lived and are living normal lives in the altitude without the use of coca as a crutch.

What can be substituted for coca? Food, says Ricketts. "The more an Indian eats, the less he chews, and vice versa." If the humid eastern slopes of the Andes - now the chief coca producing area - were planted in fruits and vegetables, if food were made available in quantity to the Indian, he would cut down and eventually give up his habit. Cocaine, unlike morphine, does not create abstinence symptoms when withheld from the chewer. In the Peruvian army, for instance, recruits, most of whom are serranos, are forced to give up coca chewing. Army medicos say that the habit is given up quite easily and that the recruits gain weight, begin to take pride in themselves and their equipment, and take readily to instruction after swearing off. Sad to say, however, once the soldier is discharged and returns to his ayllu or community, he will usually take up the habit again, falling back as he does so into a level of life scarcely superior to that of an animal.

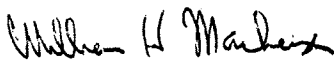
The defenders of coca are intelligent scientists; corrupt politicians who think that the all-important (for them) social status quo can be maintained by keeping the Indians well supplied with apathy-producing coca; owners of coca haciendas; and mine owners. Opposition to the continued cultivation of the plant is growing, however. Coca is being attacked from outside the country - on the grounds that Cocaine "stills" in Peru are supplying the dope markets of the U.S. and Europe - and from inside by such figures as Dr. Ricketts. Now that the World Health Organization has declared that coca does cause addiction (al though it lacks the abstinence symptoms listed as as attributes of an addiction-causing drug) another weapon has been given to the anti-coca forces. In any case, those fighting against coca believe that with its removal, the major obstacle to social and economic progress of the Indians will have been destroyed.

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A few weeks ago, I went to the market and bought an ounce of coca leaves and a slab of quinoa llipta. Perfectly willing to let Dr. Mantegazza remain the undisputed champion of writing-table vaulting, I limited myself to two drams of the leaves. A good friend - a sierra-born teacher at a nearby school - taught me how to form the bolus and add the llipta little by little. I used only the coca-quintos - the perfectly formed leaves. At first, the taste was extremely bitter, a prediction of bad luck, as my friend obligingly told me. With the addition of the powdery black llipta, however, things perked up a little. The ashes produced a sweet taste not unlike green tea. After chewing (sucking is a better word) for about half an hour, I noticed that the inner surface of the cheek and gum were partially anesthetised. The right side of my tongue felt like a lump of cold shape. After an hour, I found myself walking around the table, talking to my friend in better Spanish than I had ever been able to muster before. The desire to run or to exercise violently appeared after an hour's time - a desire which appeared without my realizing it. Wondering why my friend was smiling at me, I suddenly realized that I was swinging my arms violently. After two hours, all such sensations disappeared, and I considered my baby experiment a success. The only aftereffect was a horrible case of halitosis produced by the leaves - an all too familiar smell which brought back memories of the crowded market and public buildings.

If all goes well, I plan to chew a large dose in the presence of a friend who happens to be a doctor and a psychologist. The results will probably not prove any scientific theories, but they are bound to be amusing. If you read about a crazy gringo who was discovered late one night jumping over pedestrians in the Plaza de Armas, have no fear. This will be a one-shot experiment.

Sincerely,


William H. MacLeish

Received New York 6/8/55.