ATW-30
Further Adventures With Coca

San Francisco, California
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Mr. Richard H. Nolte
Institute of Current World Affairs
535 Fifth Avenue
New York, New York 10017

Dear Mr. Nolte:

In my recent reports to you about coca I mentioned the therapeutic properties of that interesting leaf. Over the past few months I have investigated the subject further and have some new information that bears on the broad topic of how our society has dealt with the problem of psychoactive drugs.

Last June a new edition appeared of a remarkable book that had been out of print for many years. Titled, History of Coca, The Divine Plant of the Incas, it was written in 1901 by W. Golden Mortimer, M.D., a New York physician who used coca in his medical practice. His 500-page work is an exhaustive treatise on the history, botany, chemistry, and therapeutic application of coca with many long digressions on Peruvian geography and Incan culture. Although the book is rambling and discursive, it is very well documented and contains a treasure of information, particularly on the differences between coca and cocaine as remedies.

Dr. Mortimer was using coca successfully at a time when cocaine had become very popular in Europe and America. Many pharmacologists and physicians believed that cocaine was the only thing of interest in the leaf and so prescribed the pure alkaloid instead of the natural product. Soon,

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cases of a new syndrome appeared: the Cocaine Habit. It became a fashionable complaint at the end of the last century, particularly among opiate addicts. "Cocainism" made sensational copy in the newspapers and eventually generated a fear of coca leaves as the source of the problem. Medical scientists of the day showed no understanding that their own meddling with the leaf had opened the way to trouble; their response to the situation they created was to reject coca as a dangerous substance.

Those authorities who knew the virtues of coca from direct experience spoke out against this trend, but they were few in number. Mortimer was one of them. He wrote:

> . . . cocaine has been promiscuously used as a restorative and sustainer under the supposition that it is but Coca in a more convenient and active form. The evils which have followed this use have fallen upon Coca, which has often been erroneously condemned as the cause. It is owing to the wide spread of this belief as well as its resultant evil and because of the difficulty for the lay mind to appreciate the radical difference between Coca and cocaine -- between any parent plant and one of its alkaloids -- that it must necessarily require long and persistent effort on the part of educated physicians to explain away this wrong, to reassure those who have been falsely informed as to the real merits of Coca, and so reflect credit upon themselves through the advocacy and use of a really marvelous remedy. (pp. 16-17)

But Mortimer's voice did not carry, and coca was soon dropped from the official listings of therapeutic drugs in Europe and America. Ironically, cocaine remains in both the U.S. Pharmacopeia and the National Formulary to this day. Even the Dispensatory of the United States of America, which once discussed drugs that were no longer official, has stopped talking about coca. Its last mention of the leaves was in the 25th Edition of 1955:

> In South America many of the Indians habitu-

> ally chew the leaf of the coca plant, generally mixed with some alkali as ashes or lime . . . . Eventually . . . the habit undermines the health, and finally the inveterate, excessive coca-chewer can be recognized by his uncertain step, general apathy, sunken eyes, trembling lips, green and crusted teeth, and excessively fetid breath. An incurable insomnia is apt to be developed, emaciation becomes extreme, dropsy appears, and even death results. . . . It has been believed that the effects of coca chewing are different from those produced by the alkaloid cocaine and hence it has been by some argued that the coca leaf contains other active principles, but there is no difference between the results of the habit as practiced by the South American Indian and the use of the alkaloid by depraved Caucasians . . . . While there are other active substances present in the coca leaf, it is not manifest that they modify the action of the crude drug materially.
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> Coca was at one time used for its stimulant effect on the central nervous system in the treatment of neurasthenia and other debilitated conditions. The danger of the formation of the habit, however, far outweighs any value the drug may possess, and the use of the crude preparation of coca is hardly justified except under the most extraordinary conditions. (p. 1642)

This sort of writing is characteristic of persons lacking first-hand knowledge of coca and of Indians who use it. I have never seen anything resembling the effects described in the above paragraphs. Except for the colorful addition of "green and crusted teeth" the terms applied to these fancied coca users are straight from the stereotyped condemnations of opiate addicts of many years ago. While it is disappointing to find such misinformation persisting in a relatively recent edition of the U.S. Dispensatory, it is also interesting as support for the contention that coca was damned primarily because of the early association of cocaine with opiate addicts.

My own experiences with coca in South America lead me to believe that, unlike cocaine, the leaf has a real place in modern medicine. To get more information on how it might

be used I visited the publisher of the new edition of Mortimer's book, a unique institution called the Fitz Hugh Ludlow Memorial Library here in San Francisco. Fitz Hugh Ludlow was the author of American literature's first full-length treatment of drug use, The Hasheesh Eater, written in 1857. The Library named in his honor is a private collection of books, articles, and artifacts having to do with psychoactive drugs; it is maintained for the use of scholars doing research in the field.

The Library is housed in an office building in San Francisco's North Beach. Its holdings include more than ten thousand books, pamphlets, and manuscripts, including fifty major works on coca and cocaine. Among the rare items are five albums of testimonials to the coca wine manufactured in Paris in the late 1800's by Angelo Mariani. On perusing these albums I came across the award of a Vatican gold medal to Mariani from Pope Leo XIII and letters of praise for the benefits of Vin Coca Mariani from most of the royal houses of Europe.

My researches in the Fitz Hugh Ludlow Memorial Library confirmed several impressions. One is that sympathetic practitioners who have themselves worked with coca have been able to derive great therapeutic value from it. Another is that the therapeutic properties of coca are certainly not represented in cocaine or any other single constituent of the leaf.

I was now interested in specifying conditions in which coca might be useful today, based upon the information recorded in the older literature. I came up with a short list. I believe that coca might be indicated:

1) as a respiratory stimulant, especially during physical exertion and at high altitudes;
2) in cases of fatigue of the larynx, (coca was much esteemed by opera singers and public speakers for its strengthening action on the vocal apparatus);
3) in cases of chronic indigestion and spasm in the gastro-intestinal tract, (coca tones the smooth muscle of the entire G.I. tract);

4) in cases of ulcers or other painful conditions in the oral cavity;

5) in cases of poor assimilation of food as a general tonic and strengthening agent;

6) as a stimulant to replace coffee in persons heavily dependent on coffee who cannot tolerate that drug's irritant effects on the gastro-intestinal or urinary systems;

7) as a stimulant to replace cocaine and amphetamines in persons heavily given to the use of those drugs.

It is worth pointing out that the modern pharmacopeia does not provide well for many of these conditions. I know of no alternative to coca as a high-altitude respiratory stimulant or a laryngeal tonic. For chronic, spasmodic conditions in the gastro-intestinal tract we have only belladonna alkaloids, which produce annoying side effects. The psychic components of chronic digestive ailments are often treated with the minor tranquilizers, such as Librium and Valium, alcohol-like drugs that cause far worse dependence than coca. We have nothing natural and safe to offer users of cocaine and amphetamines, drugs with high abuse potentials.

The problems with using coca today have to do with its being a complex, natural drug. Unlike isolated, synthetic chemicals, natural drugs do not produce quick, uniform responses in all patients. Some patients will not respond at all. Others will respond only after using the drug regularly for a time. Many modern physicians do not have the experience or patience to work with natural remedies. Many patients, also, do not want to invest the time and effort necessary to receive benefits from herbal treatment.

Coca can be administered as a tea made from the dried leaves or as a masticatory to be chewed with an alkalinizing agent. Especially if the leaves are chewed their potential for abuse is low. Having to work to get the effect of a psychoactive drug is one way of protecting oneself from its negative potential, and chewing coca leaves is work. It is

much easier to swallow a pill of an amphetamine or snort crystals of cocaine -- and much easier to develop habits of using those drugs.

Having identified specific uses for coca in modern medicine, I was next interested in finding out how a physician in this country would go about prescribing coca. Under current Federal regulations coca leaves are listed as a "Schedule II" controlled substance. Schedule II drugs are defined as those with high potentials for abuse and dependence but also recognized therapeutic potential. Opium, morphine, and other medically used opiates are in Schedule II along with amphetamines, cocaine, and coca. Any practicing physician, properly registered with the Drug Enforcement Administration, is entitled to administer and prescribe Schedule II substances.

The question, then, is where can a physician interssted in using coca leaves obtain them. No U.S. pharmaceutical companies supply coca or any preparation of it, although cocaine is freely available. I tried calling importers of botanical drugs and got such answers as: "Coca leaves? You mean the narcotic? You can call till hell freezes over, doctor, you aren't going to find them." Finally, I called the Drug Enforcement Administration in Washington to find out if anyone in the country was licensed to import coca. I was told that one firm was so licensed, a chemical corporation in Maywood, New Jersey that prepares decocainized leaves for the Coca Cola Company. Decocainized leaves have the alkaloids removed. The alkaloids are sold to pharmaceutical firms, and the residue goes into Coca Cola. I called the chemical corporation and was told that it was company policy not to sell coca leaves to anyone, whether a registered physician or not.

If an American medical doctor wishes to employ coca in his practice, therefore, he can do so only by importing the leaves himself. To do so is a laborious and costly

process that few physicians would be willing or able to undertake. In essence, then, coca is unobtainable in the United States and unavailable to medical practitioners. I find it significant that when I made these inquiries of Federal and state drug control agencies, I seemed to astonish those offices with the outlandishness of my question. One Federal officer said: "The leaves? You mean you want to give people coca leaves? I don't think we've ever had such a request before."

The situation with coca and cocaine seems to me to be a perfect model for studying how we have gone wrong in our relationships with drugs. Through lack of empathy with its native American users, Westerners prejudged coca as a nasty vice and for many years failed to appreciate its virtues. Most of the early Spanish conquerors who tried it felt no effect from it at all. Then, when its properties were perceived, scientists immediately set about extracting from the leaf its most powerful and dangerous component. Not satisfied with the natural substance, they released cocaine upon the world, advertising it as the essence of coca. Then, when the consequences of this blunder became clear, as growing numbers of people became dependent on cocaine, they rejected coca as the source of trouble rather than their own ways of thinking about drugs. Now, years later, coca has vanished from our world and from the public memory. We can have all the cocaine we want, either legally or illegally, but coca is not to be seen.

Recent research suggests that cocaine is the most powerful reinforcer that can be given to laboratory animals. Monkeys will do anything for intravenous doses of cocaine -- more than they will do for heroin, morphine, food, water, or sexual stimulation. Though it remains an "official" drug in the United States, cocaine has very limited usefulness in contemporary medicine. Coca has a vastly lower potential

for abuse and, in the hands of physicians who understood it, could be a most useful addition to the modern pharmacopeia.

It is, indeed, a topsy-turvy world.

Sincerely yours,

Andrew T. Weil

History of Coca, The Divine Plant of the Incas by W. Golden Mortimer, M.D., Fitz Hugh Ludlow Memorial Library Edition, San Francisco, 1974, 576 pages, $15 hardbound, $8.50 softbound, is on sale in bookstores or may be ordered from the Fitz Hugh Ludlow Memorial Library, 1445 Stockton Street, Suite 209, San Francisco, California 94133.

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