ATW-28
The Green and the White - III. White Stuff

Tucson, Arizona
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Dear Mr. Nolte:

"Cocaine is for horses, not for men;
They tell me it will kill me, but they won't say when.
Cocaine - run all 'round my brain."

--old song lyric.

In 1860, Niemann of Göttingen, Germany isolated cocaine from coca leaves. Twenty-four years later, Carl Koller, a friend of Sigmund Freud, recognized its local anesthetic properties. Although these discoveries were major breakthroughs in modern pharmacology and medicine, the appearance of cocaine in the world had unfortunate repercussions that echo down to the present day. As Richard Martin writes in his excellent paper on "The Role of Coca in the History, Religion, and Medicine of South American Indians," (Economic Botany 24: 4, 1970, pp. 422-423):

> . . .the discovery of cocaine had another less beneficial effect on the reputation of the coca plant; for the occasional abuse of this alkaloid, particularly among persons already addicted to opiates, which was sensationalized by the press both in Europe and the United States at the end of the 19th Century, created the erroneous fear

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> that coca equalled opium in its perniciousness and its deleterious effect on physical and mental health. In the space of 20 or 30 years, coca went from high praise by kings, popes, artists, and doctors as the most beneficial stimulant tonic known to man to vigorous condemnation as a dangerous addictive narcotic. The effect of this prejudice and the subsequent legal ban on coca leaves in Europe and the United States was to halt experimentation with and use of coca leaves by doctors; only specialized uses of cocaine in anesthesia were regarded as acceptable. Even more serious, however, is the fact that confusion about the effects of crude coca leaves and those of cocaine has caused many people to regard the chewing of coca leaves as practiced by the Indians of South America as merely an addictive vice, with the lamentable result that coca is now being suppressed even in areas where the Indians have relied on its stimulating and medicinal properties for thousands of years, and where it has formed a significant part of their religious and cultural heritage.

Under United States law cocaine is classified as a narcotic along with opium and its derivatives. There is no medical justification for this classification. Narcotics are drugs that induce stupor; cocaine is a stimulant. Moreover, regular use of cocaine does not lead to one of the classic phenomena of narcotic addiction: a withdrawal syndrome upon the sudden discontinuance of use. For this reason, pharmacologists say that cocaine does not cause physical dependence. Nor is there any hard evidence that cocaine causes general physical damage to the body, though it has been accused over the years of harming the nervous system in all sorts of ways.

In one person who was shooting cocaine in Colombia I saw a tendency toward verbally aggressive and hostile behavior during the acute effect of the drug. Some snorters experience anxiety reactions to high doses. But I have never seen cocaine produce real aggression, violence, or psychosis. Among the hundreds of cocaine-users I have known, I have only seen the drug induce good moods; typical users enjoy talking and listening to music

while high.

It would appear that many of the beliefs about cocaine that have led to current law-enforcement practices are unfounded and have their origin in the hysterical fears of past days when cocaine was judged guilty by association, particularly with opiate addicts. For example, in sustaining unusually harsh sentences for two young men convicted of distributing small amounts of cocaine, a federal judge in Massachusetts last month justified his action by citing this paragraph from the 1970 Working Papers of the National Commission on Reform of the Federal Criminal Laws (p. 1085):

> Cocaine is a powerful stimulant. While it does not cause physical dependence, a very strong psychological dependence upon cocaine can be developed. In the United States it is usually taken by heroin addicts in combination with heroin -- as a "speedball," but occasionally people take it alone. It is not more often used alone because it may produce acute anxiety and may precipitate psychotic episodes.
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> It should be classified as a dangerous drug because it may precipitate acute anxiety and psychotic episodes, and there is a strong possibility that such episodes may involve aggressive or violent behavior.

These ideas are terribly inaccurate. As I wrote earlier, the vast majority of American cocaine-users take the drug rarely or occasionally, only by the nasal route, and in highly diluted form. They do not also use opiates and do not become aggressive, violent, or psychotic. Presumably, as more and more middle-class, "respectable" citizens try cocaine, the old attitudes will slowly change.

In defending cocaine against the attacks of misinformed persons, I do not mean to suggest that the drug is innocuous or beneficial. I see two main problems with it.

The first is simply that cocaine does not miraculously

bestow energy on the body; it merely releases energy already stored chemically in certain parts of the nervous system. Consequently, when the immediate effect of the drug wears off, one feels "down" -- less energetic than normal. The down following the high of cocaine is very noticeable and discourages some people from using the drug more than a few times. "I really like the way I feel after I snort it," one user told me, "but I can't handle the feeling two hours later."

This pattern in the effects of cocaine makes it a perfect object for the behavior of dependent persons because the simplest way to get out of the down phase is to take another snort. In the U.S., cocaine is too expensive for most people to use with any regularity, but whenever I have been around people who have large amounts of cocaine available to them, I have seen how easy it is to get into using it all the time. Once in Ecuador I stayed briefly with a group of Americans who used a lot of a crude form of cocaine known as "base," which is the free alkaloid. Cocaine base is an amorphous solid, tan or brown in color, that is smoked (usually with marihuana in South America). In the illicit trade it is the next-to-last step in the manufacturing process. When reacted with hydrochloric acid, the base forms a crystalline hydrochloride salt that is the usual commercial form. When I smoked cocaine base I found it powerfully stimulating, but the depressant phase was even more powerful. I commented on that to my hosts, and one woman replied, "Yes, it certainly has a hook in it, doesn't it." She then lit another pipe.

The second problem with cocaine appears when one bites the hook and uses more of the drug to relieve the depression. Tolerance to cocaine develops very rapidly, so that a second dose gives a less intense high that lasts less time. Users who have access to large amounts of cocaine can find themselves, very quickly, using it all the time and not doing much else. I saw

a number of Americans in Colombia who spent most of their waking hours in unfurnished rooms snorting coke to the exclusion of most other activities. But I must repeat that this pattern seldom occurs in the U.S. where cocaine is so expensive and so highly adulterated.

Besides these two pharmacological problems of post-stimulatory depression and rapid tolerance, there are several other drawbacks to cocaine. For one thing, it is irritating to the membranes of the upper respiratory tract. On two occasions, within twelve hours of snorting moderate doses of cocaine, I have come down with colds that began as sore throats, probably triggered by the irritation. Possibly, some of this effect is due to adulterants or contaminants of black-market cocaine. (More than once I have come across samples of Colombian coke that reeked of hydrochloric acid; doubtless, the crystals were rushed into packages without proper washing.) But cocaine on its own powerfully constricts small blood vessels in the nasal membranes. For this reason it clears the nasal passages. But over a long time snorting cocaine certainly leads to local weakening of tissue by interference with blood supply.

Furthermore, I do not believe we are meant to put powerful drugs into our systems by the nasal route. When cocaine is snuffed, it rapidly and directly enters the bloodstream. The "rush" of stimulation that some users like is largely due to the rapid increase of concentration of drug in the blood that follows this method of administration. Snorting is only one step down from intravenous injection. Like shooting, it bypasses many of the mechanisms our bodies have for protecting us from the adverse effects of foreign substances. When we put a drug in our stomach, we allow the body to decide how fast to admit it to the bloodstream and give the liver and kidneys time to work at metabolizing and eliminating it.

It is hard to convince persons who like cocaine that they would be better off eating the drug than snorting it. Taken by

mouth cocaine is less potent; that is, one needs a bigger dose. Therefore, eating cocaine is economically unfeasible for most users. Also, oral cocaine does not provide as strong a rush. But neither does it cause the same degree of post-stimulatory depression nor tolerance of such rapid development.

I must cite a final and troublesome problem of cocaine: the difficulty of leaving it alone. It is terribly hard for people who like the stimulation of cocaine to let the drug sit around unused. The white powder seems to exert a strong attraction even if it is kept out of sight.

In an earlier newsletter (ATW-11) I examined an analogy between refined white sugar and heroin. I stated my belief that the refining of natural substances into white powders is dangerous because the powders are hard to control. Use of opium can be stabilized and regulated much more easily than use of heroin. People who have available only raw sugar eat far less sugar than people who use the white stuff. In both cases it seems that the more natural form carries certain messages that dictate appropriate use. These messages may be carried by the associate substances that occur in the plants. Raw sugar has many things in it besides sucrose, the sweet essence, and these other things convey strange tastes that keep us from consuming more than our body wants. When the other things are left behind in molasses, we lose those signals and are able to consume sucrose in huge amounts, possibly to the detriment of our health. In the same way, opium contains many compounds other than morphine, its active essence, and it is likely that these associate substances provide a kind of pharmacological insulation that protects users from the naked, hard-to-control effects of morphine.

It should come as no surprise to learn that cocaine is but one of many physiologically active chemicals in the coca leaf. To date some 14 alkaloids have been isolated from vari-

eties of the plant. Pharmacologists have burdened us with the notion that drug plants must owe their properties to a single "active principle" that can be isolated, synthesized, studied, and administered in pure form. This notion may be helpful to pharmacologists in making their experiments simpler, but it is disastrous to the rest of us because it leads us away from natural green medicines in the direction of white powders with far higher potentials for abuse.

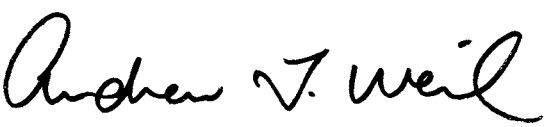
Martin states the problem well (op. cit., p. 436):

> . . . the effects of the coca leaf often have been presumed to be embodied in the alkaloid cocaine, albeit in a more potent form, with the result that the majority of the physiological research for the last 50 years has been performed solely with cocaine and not with other preparations of coca leaves. However, many physicians have emphasized that the effects of these two are not identical, and particularly that the therapeutic qualities of coca are not represented completely in the active principle cocaine. An important consideration in this regard is that active principles and particularly alkaloids can exert quite different effects when administered as they are naturally combined in the plant than when administered in pure form. Very little is known about the physiological activity of the associate alkaloids of the coca plant, and still less about their effects in combination. The necessity of looking into the possible importance of these other compounds is emphasized by the fact that an Indian will frequently reject the bitter coca leaves with the highest percentage of cocaine in favor of the sweeter leaves which are richer in the more aromatic alkaloids.

Cocaine today has very little use in medicine. Doctors sometimes use it as a topical anesthetic in the eye, nose, and mouth. For local anesthesia by injection, it has been replaced by a number of synthetic "-caine" drugs that have no effects on consciousness. In isolating cocaine from coca and equating the effects of the leaf and alkaloid, European and American scientists not only gave the world a troublesome

and not very useful chemical but also deprived themselves of the benefits of a most useful plant. In so doing they dishonored the spirit of Mama Coca, and the sad results may well be her just retribution.

Sincerely yours,



Andrew T. Weil

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