he had several opisthotonic crises. A computerised tomographic scan of the brain showed reduced ventricular size—with an area of diffuse hypodensity in the right hemisphere (cerebral oedema). He needed mechanical ventilation and was treated with dexamethasone. 3 days later he had much improved; he was conscious and could be extubated. On the 8th day a repeat CT scan of the brain was normal. The patient told us he had ingested 750 mg zipeprol.

In both cases the convulsive crises at the first hospital admission were not connected at the time with zipeprol abuse.

Information given to us by addicts, who mentioned syncopal episodes and convulsive crises after abuse of zipeprol, has persuaded us that there is a close relation between the ingestion of high doses of zipeprol and the symptoms observed. The mechanism for this effect is not known. In the second case there was CT evidence of cerebral oedema, which disappeared after a week. Thus cerebral oedema seems to be correlated with the toxic effects of zipeprol.

Department of Internal Emergency Medicine,
General Hospital,
33100 Udine, Italy

FRANCO PERRARO
AULO BEORCHIA

IMAGES OF COCAINE

SIR,—Your Nov 26 editorial contrasts the benign effects of cocaine on recreational users today with its sinister reputation in earlier years and concludes that "a drug with dangerous potential may in some circumstances be contained and 'tamed' ". This would be a rash assumption. The real explanation of the discrepancy lies in the unreliable quality of the illicit cocaine available today. Most "street" cocaine is adulterated with lactose, glucose, and mannitol: recent analysis of street samples yielded a cocaine content varying from 17% to none at all. The Drug Abuse Council states: "To say, for example, that an individual uses one gram per day of street cocaine could mean that he consumes an amount anywhere between zero and 0·9 gram with the remainder consisting of indeterminate adulterants or impurities."[1] This is what makes the assessment of cocaine use today almost impossible.

To find out the long-term effects of cocaine use for my book[2] I had to go back to the medical journals of the 1880s and 1890s, particularly to those of the USA, where the alkaloid was more extensively exploited. Then a new drug, cocaine was freely available in pure form from any pharmacy to anyone who could afford the high cost. Cocaine was in those days regarded as something of a panacea; and it was prescribed in good faith by many physicians for a variety of conditions such as hayfever, asthma, and coryza. No guilt attached to its use and physicians were able freely and openly to observe its effects on their patients. Many doctors experimented with the drug on themselves and others in a search for new medical indications.

Before long, euphoria gave way to dismay when it became clear that the new "wonder drug" was a highly toxic and addictive substance and that doctors and those in allied professions had become its earliest victims. Detailed medical reports of these cases prove that cocaine fully deserves its sinister reputation. Previously respected medical practitioners became dangerously psychotic—assaulting patients and brandishing pistols in public and firing indiscriminately into the air—and had to be restrained for the protection of themselves and others. These homicidal acts were often based on paranoid delusions. Passers-by would be stopped by cocaine victims and accused of making vile and indecent charges against them. One physician, fearing he would be garrotted, bought three St Bernard dogs for protection, but imagined they were talking about how they could get rid of him. He shot one and spent the remainder of the night standing on a table with pistol trained on the other two. This doctor was highly susceptible to cocaine hallucinations, generally of a sexual nature. One day, on entering the operating theatre, everybody—surgeon, assistants, and students—appeared to him to be totally naked and in lascivious positions. On recovery he described his experience as embracing "the whole gamut of wretchedness and shame that included both hospital and gaol".

Many medical men had to be confined to institutions, as the medical journals of the day record. Your editorial mentions Freud as having experimented with cocaine. My researches revealed that his experience with the drug went far beyond this and that Freud too must be numbered as one of the medical casualties of cocaine.

The medical journals of a hundred years ago present a horrifying picture of the free and unrestricted use of cocaine in unadulterated form. If the pressure groups campaigning for the legalisation of cocaine (backed, I am sorry to say, by some psychiatrists) succeed in their aim, this picture could be with us again.

46 Merrion Square,
Dublin 2, Ireland

E. M. THORNTON

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AMPHETAMINE PSYCHOSIS DUE TO KHAT LEAVES

SIR,—I was surprised to read, in a 1982 paper, of a case of manic psychosis induced by the chewing of *khat* leaves in the United States.[1] Although leaves of the *khat* shrub are widely used as a stimulant in eastern Africa and the Arab peninsula, they are almost unknown elsewhere. The chewing of *khat* causes a certain degree of euphoria and hyperactivity accompanied by sympathomimetic side-effects.[2] Even though the habit was described more than seven centuries ago,[3] it has remained endemic to the areas of cultivation of the plant; only fresh material is active. However, the increasing use of *khat* in these areas and the consequent socioeconomic complications and impact on public health have prompted international bodies, including the World Health Organisation, to discuss the problem.[4]

Khat leaves contain a potent phenylalkylamine alkaloid called (−)cathinone.[5] This compound has pharmacological properties analogous to those of (+)amphetamine and is of similar potency.[6–8] Furthermore, (−)cathinone acts by the same mechanism as (+)amphetamine—ie, by inducing release at physiological catecholamine storage sites.[9,10]

Cases of *khat*-induced toxic psychosis are infrequent since *khat* use is self-limiting, the material being so bulky. In the US case[1] a North African student grew the leaves in his flat, suggesting that other cases might occur in North America and Europe. The source of the material could thus be home-grown *khat* as well as leaves flown in from countries of cultivation. Clinicians should remember that this plant material can cause an amphetamine syndrome.

Department of Pharmacology,
Centre Médical Universitaire,
1211 Genêva, Switzerland

PETER KALIX

SCHOOLCHILDREN WHO TATTOO THEMSELVES

SIR,—Dr Thomson and Dr McDonald (Nov 26, p 1234) mention serum hepatitis as one of the possible complications of tattooing. The transmission of hepatitis B during professional tattooing is well known,[11,12] and acute hepatitis B after recent tattooing is often

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