Drug addiction ranks with medical economics as one of the most contentious and emotionally-charged subjects on the current medical-scene. This situation in North America was well described in June 1963 by Senator Jacob Javits of New York, who called it a state of seemingly endless drift, characterized by indecision, uncertainty and controversy. There is practically unanimous agreement between medical experts all over the world that narcotic addiction should be dealt with more as an illness and less as a crime.

For the purpose of this paper the definition of drug addiction will be that drawn up by the Expert Committee of the World Health Organization:

"Drug addiction is a state of periodic or chronic intoxication detrimental to the individual and to society, produced by the repeated consumption of a drug (natural or synthetic)."

According to Heinz Lehmann, Canada's foremost psychopharmacologist, the chief characteristics of drug addiction are as follows:

1. An overpowering desire or compulsion to continue taking the drug and to obtain it by any means.
2. A tendency to increase the dose.
3. A psychological and sometimes a physical dependence on the drug.

It is beyond the scope of this paper to deal with the enormous public health problem posed by alcoholism, but it is strongly emphasized that alcohol addiction differs in no major way from opiate addiction as regards etiology, psychological and physical dependence, treatment and prognosis. Some of the confusion surrounding both types of addiction is due to lay and professional persons alike failing to appreciate that they belong to the same group of diseases. It is curious that alcohol-addiction carries so much less stigma than opiate-addiction.

It is most difficult to accurately assess the scope of the problem owing to the dearth of reliable statistics. The following figures for Canada refer only to narcotics, mainly Morphine, Heroin and Demerol. In 1955 the Senate Committee on "The Traffic of Narcotic Drugs in Canada" stated that there were 3212 addicts in Canada, the majority being in Vancouver, with Toronto and Montreal accounting for most of the rest. Of this number, 2364 were described as "criminal addicts", 515 as "medical addicts", that is, addicted while undergoing medical treatment, and, 333 as "professional addicts", the latter referring to addicts in the health professions. In connection with the description "criminal" applied to the majority of addicts it should be pointed out that of 2009 cases studied by the R.C.M.P., 1668 were probably criminals before addiction.

In Britain the total number of known addicts was in 1937—620, in 1947—199, and in 1961—470, despite the fact that the population is almost three times as large as Canada. Lehmann states that 33% of these are "professional", while British authorities say 16—25%; at any rate the proportion of "professional" addicts is greater.
in Britain. On the other hand over 80% of addicts in Britain first took the drug in the course of medical treatment, while an approximately equal proportion in North America had their initiation with illicit supplies.

Lawrence Kolb\(^3\) states that in December 1959 there were 45,000 active addicts in the U.S., of whom 3.8% were under twenty-one and 0.3% under seventeen. In sharp contrast Lehmann claims that 30% of U.S. addicts are under twenty-one and is probably much nearer the actual figure.

The problem of drug addiction did not exist as a psychiatric or legal entity until the beginning of this century. It is well known that the Sumerians and Assyrians used opium thousands of years B.C., that the Chinese have smoked it for centuries and that there were many addicts in Europe in the 15th century. Famous literary addicts include Beaudelaire, Edgar Allen Poe and De Quincey. Until shortly before World War I the taking of drugs was regarded much as is social drinking or smoking today, a person’s own business. Indeed, for a short time Freud used Cocaine and extolled its virtues to his young bride. In the U.S. the greatest amount of opium, in the form of laudenum and paregoric, was consumed from 1860 to 1875. According to Lehmann, prior to the introduction of the controversial Harrison Act in 1914, one in 400 Americans was an addict; current estimates are that one in 3000 Americans is addicted and one in 6000 Canadians.

There is overwhelming evidence that the punitive-deterrent approach to the problem has signally failed. In the U.S. the Harrison Act of 1914 which is basically revenue legislation, was at first strikingly successful in reducing the illicit traffic in drugs and controlling their legal distribution. This act made no provision for consideration of the addict as a medically sick person. It is evident that legal control of drug trafficking is an essential part of any practical approach to the problem, but it is abundantly obvious from U.S. experience that this approach alone is not enough. Yet since the twenties, a gradually more punitive attitude toward peddlar and addict alike has emerged in the U.S., climax in 1956 when Congress set up the death penalty for certain cases of sale or gift of drugs to minors. All attempts at liberalization of the law to accommodate evil commitment and medical treatment of addicts was strongly opposed by the Federal Bureau of Narcotics, which as recently as 1961 severely critized a two year joint study by the American Medical Association and the American Bar Association, which condemned the concept of drug addiction, standing alone, as a crime, questioned in its report the severe jail sentences and pointed out the great need for research. Convictions under the Harrison Act continue at the rate of 800 per year with a staggering rate of relapse of the addicts after discharge from Federal prisons for addicts at Fort Worth and Lexington. However, in June 1962 the U.S. Supreme Court ruled that the California law making it a crime to be an addict was unconstitutional. New York and California now have means for civil commitment of non-criminal addicts, and the swelling chorus of voices urging a combined medical and legal approach has included the late President Kennedy, Governor Rockefeller and Governor Meyner of New Jersey, in addition to the A.M.A.

In Canada there is a mandatory sentence of six months for possession of drugs under the Opium and Narcotic Act. In June 1960 the editor of the Canadian Medical Association Journal commented that drug addiction is a criminal offence “treated” by punitive means. There is no evidence that harsh sentences serve as a deterrent to addicts nor suppress illicit traffic. Similarly it has not been shown that drug addiction leads to crimes of violence, although stealing and prostitution are commonly resorted to in order to finance a habit costing up to six hundred dollars per day. A New York study of all convictions for five years in the Court of General Sessions failed to show one conviction where crime was the direct result of the use of marijuana\(^4\).
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In Britain eight eminent physicians reported to the Government in 1961 after a comprehensive three-year study, that the incidence of drug addiction there is still very small and the traffic in illicit supplies is almost negligible, with the exception of marijuana. They attributed the facts to public attitude and systematic enforcement of the Dangerous Drug Act of 1951. There can be little doubt that the basically law-abiding nature of the British, lack of press sensationalism on the subject and law enforcement are important factors, but it is equally obvious that the legal attitude that it is a medical condition requiring treatment and that responsibility for this treatment has remained entirely in the hands of the medical profession, are of equal importance. In North America there seems to be a monotonous commitment to the concept that it is better in all cases to attempt complete termination of the drug habit, while in the majority of psychiatric conditions drug treatment is the one of choice, and the British have had great success in treating certain incurable addicts with stable doses of a narcotic drug legally prescribed and supervised by a physician at his discretion. Contrary to popular belief, there is no "registration" of addicts in Britain and it is not incumbent on the physician to report addicts to the authorities, or commit them to hospital, although in practice it is useful for the doctor to liaise with the Home Office, who can furnish information valuable in treatment. It is by this means that the number of known addicts becomes available.

The misapprehensions about drug addiction, even among physicians, are legion, due to the complexity of the problem, sensationalism in the mass media, a powerful but distorted literary tradition and basic ignorance with respect to etiology and mechanisms of addiction. In addition, the confined addict has been extremely successful in having his views of addiction accepted, with the claim that it results from physical dependence due to accident, medical treatment, or curiosity, and that all are equally susceptible; this is clearly a fallacious view.

Clinical observation has made it clear that addicts do not fit the press description of being walking dead, with rotting teeth, yellow skins, perforated nasal septa, tuberculosis, snapped nerves (what ever they might be!), deformed genitalia, abscesses and boils, suffering from psychoses and having all good character traits replaced by bad ones. The value of horror as deterrent has never been demonstrated but at least it may provoke public attention. However, this depiction inspires revulsion instead of pity and presents serious problems in the shaping of attitudes relating to treatment and rehabilitation, for who would wish one of the walking dead as a neighbour or a patient? Similiarly, narcotics, including marijuana, exert a sexual depressant rather than aphrodisian action, contrary to widespread belief. The myth regarding the heightened sensory experiences and brilliant hallucinations of drug experience results mainly from the literary description of highly sensitive and highly imaginative authors such as De Quincey; in actual fact the average addict's sensory experience under drugs is contentless or content-poor, although still very compelling. Withdrawal pains are greatly exaggerated by the addict with histrionics motivated by a desire for the drug; most addicts intermittently "kick" the habit in the street; thousands of patients who become physically dependent on a narcotic whilst under medical treatment undergo withdrawal with little difficulty; in fact experts have described withdrawal as being no worse than a moderately severe gastro-intestinal influenza, and it is certainly the easiest part of addiction to treat, taking no more than a few days as a rule. The addict often claims that he takes just enough to feel normal, yet despite the fact that 2 grains of morphine prevent withdrawl symptoms in practically every case, addicts take up to 20 grains a day. They insist on the intravenous route too, although intramuscular injections are equally effective in preventing withdrawal symptoms; and frequently make their own syringes. New synthetic opiate-like drugs with only minimal
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withdrawal symptoms addict just as rapidly. On the other hand it is exceedingly rare for an epileptic to become addicted to barbituates although many take long-continued high doses. Also 75% of U.S. addicts discharged from prison after being drug-free for over a year take narcotics immediately. It is clear then that physical dependence and fear of withdrawal symptoms are not the important factor in the cause of drug addiction.

It is also evident that drug addiction does not cause psychosis, on the basis of several studies. Those functional psychoses encountered following withdrawal are clearly coincidental according to Brill, the Deputy Commissioner of Mental Hygiene in New York. As in other mental disorders, the withdrawal from reality, in this case accomplished pharmacologically, is an effect rather than a cause.

Puritanical concepts of the horrors the addict endures being a punishment for the sin of self-indulgence find their analogy in other psychiatric disorders formerly thought of as a visitation for excessive day-dreaming. This philosophy, expressed by John Milton, Samuel Johnson and echoed by Florence Nightingale, found a modified expression in the formal psychiatry of Adolph Meyer, who in 1908 cited excessive self-indulgence and day-dreaming as the formula of the deterioration process in schizophrenia.

Other fallacies abound concerning the poor results of treatment, and provoke feelings that it is futile to attempt such. Now that it is generally understood that this is a lifelong chronic relapsing illness similar to many others, and in particular that a prolonged rehabilitation and after-care program is essential, a less pessimistic attitude and better results should be forthcoming. The Swiss are claiming a 40% permanent cure rate with an excellently planned program and Lady Frankau in England is having good success only partly withdrawing patients on an ambulatory basis until rehabilitation is accomplished and then withdrawing them completely. In California the recovery rate for physicians, who are allowed to continue practice but not prescribe narcotics, is 92%; it is interesting to speculate on what it would be if they were not allowed to practice and put in jail.

The overwhelming increase in addiction commonly spoken of is an unproved assertion. There is good evidence that there is a cyclical variation and that the incidence has lowered since the last peak in 1951-52. It can be stated with confidence that the use of narcotic drugs is not tantamount to becoming addicted. Mayor La Guardia’s Committee on Marijuana in New York City brought to light large numbers of casual smokers and also proved that this drug induces practically no withdrawal symptoms and does not produce physical dependence.

There is no doubt that the exaggeration, falsifications and phantasies surrounding drug addiction clog intelligent discussion and deter sensible action.

Now turning to the psychological aspect; according to Lehmann and most competent medical authorities specific constellations of personality traits strongly predispose to drug addiction. More research is needed to unravel the etiological knot, but it appears certain that multiple causality operates in this illness. As with tuberculosis, there are internal, external, predisposing and precipitating factors. The internal factors including an hereditary predisposition but much more important is the psychopathic or psychoneurotic personality which gives the drug its high potential for producing adjustment, albeit by a very poor mechanism. External factors are mainly the availability of the drug and a high community tolerance for the habit. Ausubel of Chicago describes two prototypes: first the motivational immature type, who because of an unhealthy child-parent relationship is a passive, dependent, irres-
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ponsible person lacking perseverance and self-discipline and pre-occupied with immediate pleasurable self-gratification. His prognosis is much worse than the reactive type who is usually in the phase of adolescent revolt. Both types usually live in an urban slum and chances are they belong to a racial minority, such as Puerto Rican or Negro. They may belong to the same gang but whereas the reactive type is a weekend "joy-popper" seeking thrills and thumbing his nose at society, the motivational immature type takes more of the drug, more often and more for adjustment of his emotional problems than for thrills. The chances are his reactive friend will mature out of "joy-popping" in a few years; he may too, especially as he grows older, but it is less likely. The difference is that his reactive friend is temporarily maladjusted but has a fairly normal personality.

Lehmann considers addiction as follows: "it is essentially the external manifestation of a person's seeking to induce and perpetuate directly, the most desirable state of his personal existence regardless of any other opposing values". He can be differentiated from the drug-dependent patient who seeks only a more desirable state and would be equally happy to have his symptoms of pain, depression or neurosis relieved by means other than drugs if and when it were possible.

The drug addict seeks the following basic things: euphoria, which has been described as pharmacogenic orgasm since it resembles sexual orgasm in its sensory aspects, a feeling of heightened power and an absence of all unpleasant feelings and sensations. In our highly differentiated Western society, perhaps it is the pressure of conformity and uniformity, especially seen in North America, which motivates artists and intellectuals to seek to grasp the true meaning of the universe and augment creative power through the use of drugs. Aldous Huxley's experience with the der-ealizing or psychotomimetic drug Mescaline is a good example.

Addicts of thirty to forty years of age and above are more likely than the young to use tranquilizing and depressant drugs such as meprobamate and the barbituates to create a protective barrier around themselves. However many adolescents seek a mixed reaction by taking depressant-stimulant mixtures such as barbituates and amphetamines in the well known "goof-balls". Many older addicts use Heroin, Morphine and Demerol, of course, and some addicts switch to different drugs or combine their use. However, it is consistently shown that older addicts respond much better than the younger ones, who are often very refractory to treatment. This may be related to the maturing-out process observed which causes many addicts to give up by themselves between the ages of thirty and forty.

It should be reiterated that drug addiction is merely one manifestation of an underlying psychiatric illness. The non-peddling addict should be committed under civil, not criminal law, to a hospital for medical and psychiatric treatment. After withdrawal or partial withdrawal he should be rehabilitated occupationally, socially and psychologically by means of a comprehensive after-care program. Only in this way can he be saved from almost inevitable relapse, since he is suffering from a lifelong illness.

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