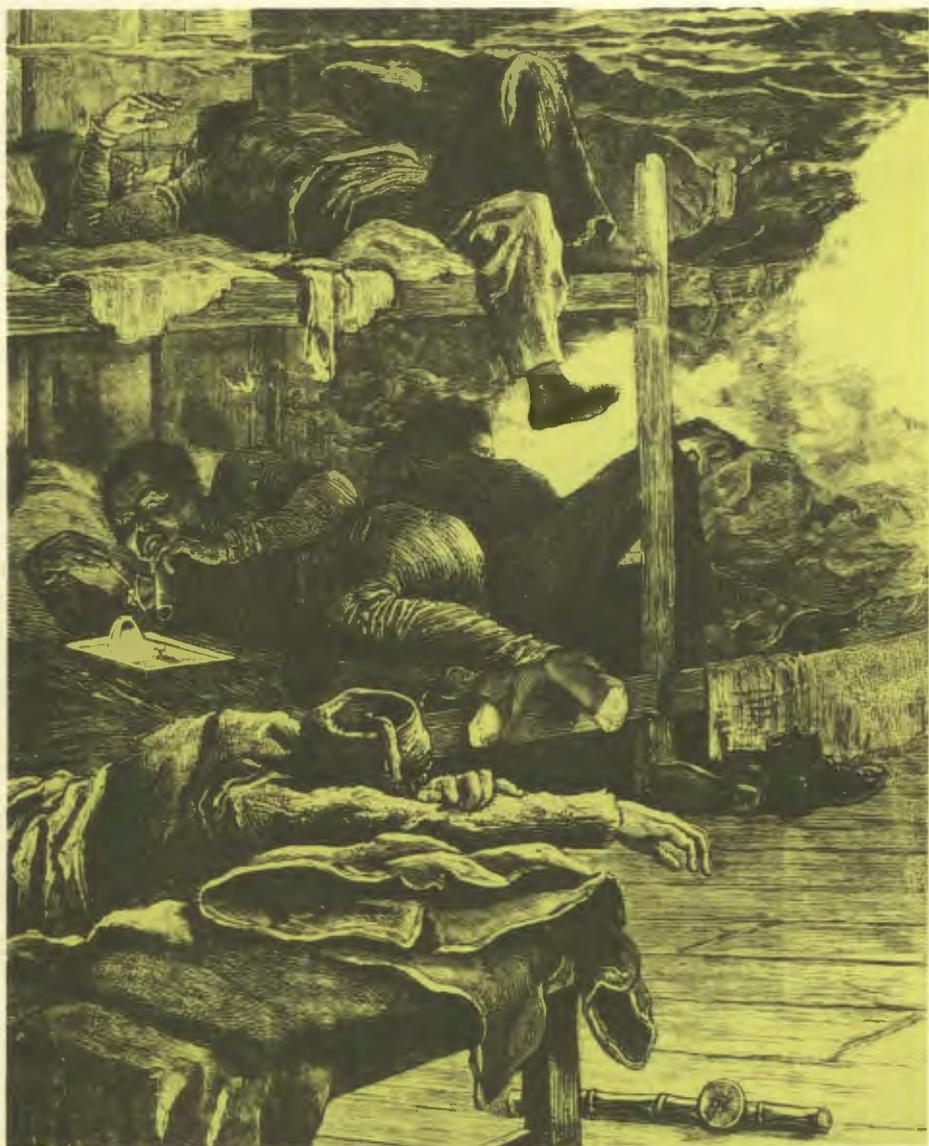


Drug Addiction



Number 25 in a series of papers on current health problems published by the Office of Health Economics. Copies are available at 2s 6d, postage free. For previous papers see page 32.

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An opium den in the East End of London about 1880.

Drug Addiction

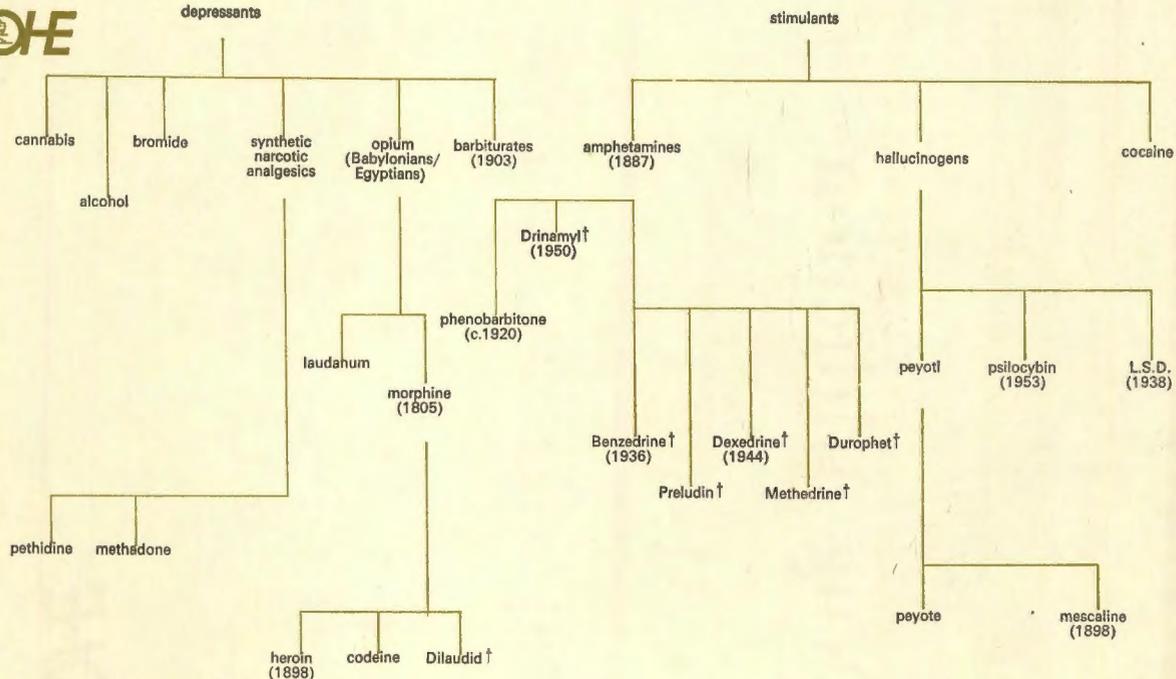


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Figure 1

'Drugs' acting on the Central Nervous System*



*Only drugs of special interest to this paper are shown.

†Brand names.

Introduction

FOR many thousands of years man has sought and found artificial stimulants or sedatives to relieve the tensions of everyday living, to allay fear and worry or simply to increase his pleasure. These have ranged from cannabis, the opiates and the juice of a Mexican cactus to alcohol, tobacco, tea and coffee.

Clearly it is not so much the use of these substances but their abuse or improper use that concerns society. The concept of drug addiction* depends firstly on the way society defines drug abuse, secondly on the relationship between the use and the abuse of a specified substance, that is, the extent to which its use leads to abuse and thirdly on the point at which society attempts to control 'abuse'.

Abuse of drugs was for many years considered in terms of drug habituation and drug addiction; but there have been, and still are, great semantic difficulties in defining these words. In 1950, the WHO¹ described addiction as a state of periodic or chronic intoxication, detrimental to the individual and society, produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include an overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means; a tendency to increase the dose; a psychic (psychological) and sometimes a physical dependence on the effect of the drug. In 1956² they proposed that a distinction should be drawn between drug addiction and drug habituation. Habituation, they said, differed from addiction in that it created a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being it engendered. In the case of habituation there was little

*The word 'drug' has two common usage meanings, firstly any pharmaceutical preparation used in medicine and secondly any substance associated with 'addiction' and used synonymously with 'dope'. In this paper, it will be used to denote any chemical substance which acts on the central nervous system in such a way as to alter an individual's psychic state. Generally, these substances alter one's relationship with reality and, again generally, they are taken for pleasure or to avoid the misery of not taking them.

or no tendency to increase the dosage, some degree of psychic dependence but an absence of physical dependence and hence of an abstinence syndrome. They considered that the detrimental effects, if any, fell primarily on the individual.

Certain difficulties attach to these definitions. There is no clear distinction between the meaning of habituation and addiction, either within or between lay, legal and medical usage. Some individuals may derive a satisfying or pleasurable sensation from a wide variety of substances taken into the body (eg nutmeg, banana-skins, glue-sniffing, snuff, tobacco, alcohol and even food) and continue taking them possibly to an excessive and detrimental degree. Does glue then become a drug of addiction? In addition, by association, both terms have a connotation of evil, guilt and sin. This, possibly, is because man considers that his mind should rule his body and some of these drugs taken by the body control the mind.

In 1964, the WHO³ recommended that 'drug dependence' be substituted for the terms addiction and habituation and also that dependence should be discussed within the confines of specific drugs or drug types.* (The UN Commission on Narcotic Drugs, however, decided at its twentieth session, in 1965, to keep to the old terminology). Drugs producing dependence have at least one effect in common which is that they are capable of creating a state of mind in certain individuals termed psychic dependence. This is a drive requiring periodic or continuous administration of the drug for pleasure or to avoid discomfort. Abuse of the drug occurs when the results of the drug dependence have an apparent detrimental effect on the individual and society. Over and above this, the characteristics of drug dependence show wide variations from one generic type to another and this makes it necessary to establish clearly the pattern for each. The types delineated include the following: morphine, barbiturate, alcohol, cocaine, amphetamine, hallucinogens (such as LSD) and cannabis.

This paper is concerned mainly with the 'hard drugs' described variously as opiates or narcotics† which include morphine and heroin, cocaine and the synthetic narcotic analgesics such as pethidine. (See Fig. 1.) Four other drug types, the barbiturates, amphetamines, hallucinogens and cannabis are also discussed.

*The second Report of the Brain Committee⁴ reporting in 1965 defined an addict, for the purposes of medical practice in Great Britain, as 'a person who, as the result of repeated administration, has become dependent upon a drug controlled under the Dangerous Drugs Act and has an overpowering desire for its continuance but who does not require it for the relief of organic disease'. They do not comment upon the addict who later develops an organic disease.

†These descriptions are not entirely satisfactory as cocaine is neither an opiate nor a narcotic but is known as a 'hard drug'.

Historical use of Drugs and Legal Control

Opium has been used for a wide variety of medical purposes throughout recorded history. Sydenham, in about 1670, is alleged to have declared that 'without opium there would be no medicine'. Opium was first regarded as a social problem in China in the 18th century when the introduction of opium smoking and the commercial exploitation of opium by the East India Company led to edicts against importation and, in 1840, were contributory factors to the opium wars. They resulted in a growing moral concern over opium abuse.

Morphine was isolated in 1805 and the hypodermic needle invented in 1843. These became widely used for the treatment of casualties during the American Civil War and morphine addiction was for some years known as the 'soldier's disease'. By the 1870s people in America began to connect the use of opium and its derivatives with criminal behaviour and to regard the former as a cause of the latter. Heroin was first produced in 1898 and was originally thought to be non-addictive and the long-awaited cure for the opium habit. It was originally used widely as snuff, as was cocaine.

In 1909 an international conference was held in Shanghai to discuss the opium problem, and in 1912 an attempt was made to control international narcotic traffic. This was the opium convention held at the Hague, as a result of which legislation was enacted in various participating countries. International control is now under the auspices of the United Nations which has a full time Commission on narcotic drugs. Over the years many conventions and treaties have been adopted by member governments. New potential dependence-producing drugs are considered from time to time and if regarded as such, placed on a restricted list. Opium and its derivatives have been so regarded from 1912 and cannabis from 1925. Each member country is under an obligation to abide by these treaties and to make a return each year to the Commission which gives details about addiction.

In America, the first federal law concerning narcotics, the Harrison Narcotic Act, was passed in 1914, since when numerous federal and state laws have been enacted. In the United Kingdom narcotics had been controlled to some extent by the Pharmacy Act of 1858* and later by Defence of the Realm Acts in the First World War. In 1920, Britain passed its own Dangerous Drugs Act in accordance with international convention. Six further amending and consolidating acts were passed between 1923 and 1965 and a 1967 Bill is now before Parliament. The narcotics and cannabis come under this category; amphetamines and LSD

*Nevertheless, extracts of opium, such as laudanum, were easily available over the counter at the pharmacy.

under the Drugs (Prevention of Misuse) Act of 1964, and the barbiturates come under the Pharmacy and Poisons Act of 1933.

Trends in the Incidence of Narcotic Addiction

Accurate statistics on drug addicts are extremely difficult to compile. In Britain, the Home Office keeps a record of persons known to be addicted to those drugs contained within the Dangerous Drugs Act. There is no official registration and the Home Office index is kept for various reasons including the need to make returns to the United Nations each year.* This index is compiled from a variety of sources, the main one being the routine inspection of retail pharmacists' records. These inspections are carried out by the police and where they show regular or unusual supplies of drugs to a particular individual it is reported to the Home Office and further enquiry is made, usually by a regional medical officer of the Ministry of Health. The police also report cases of addiction encountered in other enquiries and further cases may be brought to light by doctors, hospitals, social workers and others. Although these figures cannot be regarded as giving an accurate picture of the total number of addicts in any year in question, they certainly reflect the pattern in the use of narcotics. The figures will exclude certain addict groups, primarily those who obtain their supplies from illicit sources, the main illicit source being from other addicts obtaining supplies of narcotics legally on prescription. This latter group may be comparatively large, but when heroin can readily be obtained on prescription† it is unlikely that many continue this method of supply once they require large daily quantities. In 1965, there was 'no evidence of any significant traffic, organised or otherwise, in dangerous drugs that have been stolen or smuggled into this country'⁴ and the Home Office consider this still to be the case for narcotics in 1967.

Figure 2 shows the number of addicts known to the Home Office since 1935. The total number has increased sharply since the mid 1950s. Until about 1960 the actual increases were small and it was not until 1964 that the number became greater than the figure thirty years before. Figure 2 also shows that whereas morphine addiction accounted for the majority of addicts in 1935, heroin was the drug used by two thirds of addicts in 1966.‡ Figure 3 shows the number of offences committed against the Dangerous Drugs Act in Great Britain since 1921. Again, the rise since the mid 1950s is clearly seen for manufactured drugs,

*The 1967 Dangerous Drugs Bill will require doctors to notify addicts known to them to the Home Office.

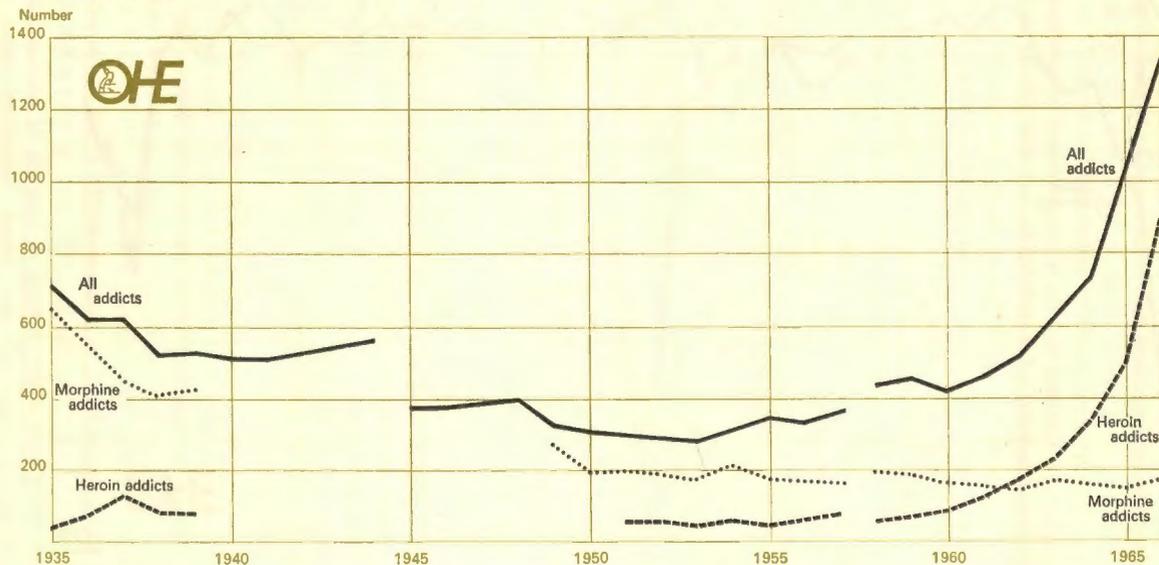
†Prior to the Dangerous Drugs Bill, 1967.

‡Cocaine is very often used in conjunction with heroin. In 1965 nearly 60 per cent of heroin users took cocaine as well.

Figure 2

Addicts known to the Home Office, by drug, 1935 to 1966, GB.

Source: Home Office.



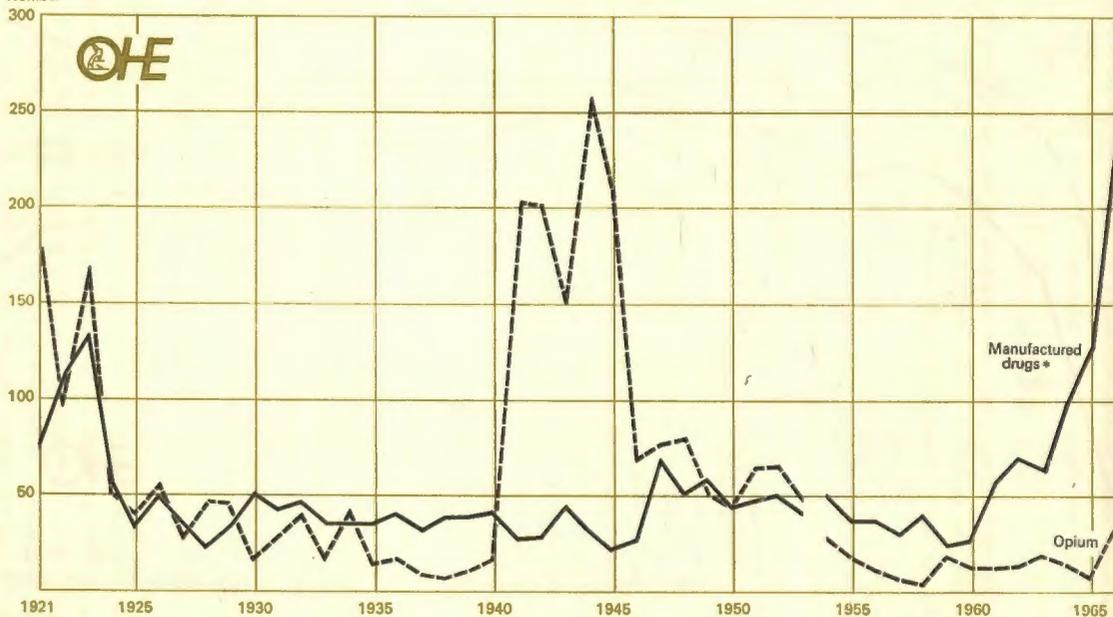
Note: (1) system of compiling altered in 1945 and 1958. (2) no information, morphine 1939 to 1949, heroin 1939 to 1951.

Figure 3

Drug offences, by type, 1921 to 1966, GB.

Source: Home Office.

Number



*Includes morphine, heroin, cocaine and pethidine.

Note: Prior to 1954 figures relate to prosecutions, from 1954 onwards to convictions.

particularly heroin. Convictions for opium offences have fallen considerably; the majority of these offences are committed by persons of Chinese origin, many of them seamen.

The increase in recent years is almost entirely accounted for by an increase in the number of addicts who started their addiction as a result of obtaining the drugs from another addict ('non-therapeutic' addicts) rather than as a result of medical treatment ('therapeutic addicts'). Of known addicts in 1958, 21 per cent had become addicted other than as a result of treatment. In 1966, the proportion was 74 per cent. (Fig. 4.)

In addition to the change in drug type and the source of addiction, other changes have been noted recently. Many addicts in the 1930s were in the medical and allied professions and had obtained their drugs through easy access. While the number of these addicts has fallen slightly in recent years, the number of 'non-medical profession' addicts has increased rapidly. Further, the age distribution of the addicts is changing (Fig. 5). Much of the increase has been among young persons, most of these young addicts use heroin. In 1959, there were no heroin addicts recorded under the age of 20; by 1966 there were 317. The average age of new addicts calculated by Bewley⁵ was 28.7 years for male addicts in 1960 and 23.5 years in 1964. In the United States, male addicts outnumber female addicts by at least four to one⁶ and although, at the moment, the proportion is roughly two to one in Britain (three to one among new addicts) this ratio is moving towards the American figure. Similar patterns of age and geographical distribution (the majority of addicts live in four or five large urban areas) are seen in the two countries. However, whereas narcotic drug addiction in the United States is now heavily associated with minority groups such as American born Negroes and Puerto Ricans, in Britain most of the addicts do not have a minority background.

In international terms, the number of addicts in Great Britain is still a very small proportion of the population (Table A). In 1966, there were approximately 1300 known narcotic addicts in Britain, a rate of 25 per million, compared with 56,000 active addicts known to the Federal Bureau of Narcotics in the United States, giving a rate of over 290 per million.*

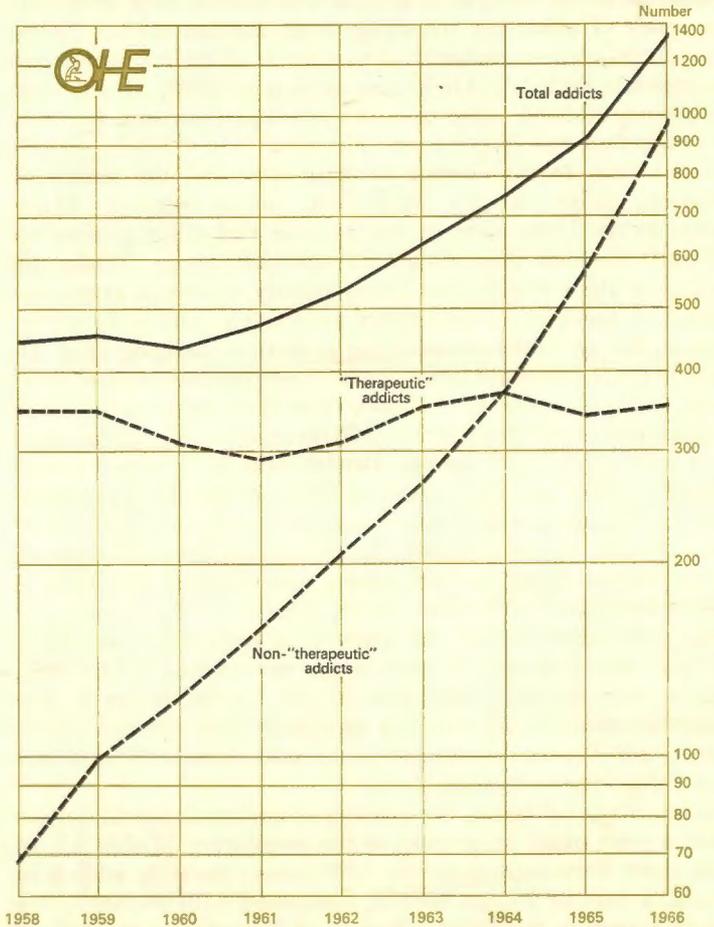
It is the *increase* in Britain in recent years that gives cause for concern. One estimate⁷ based on the assumption that the number of new addicts double roughly every one and a half years⁵ gives the figure of 11,000 addicts in the UK by 1972. Extrapolating from this to 1984 Laurie⁸ points out that the number of new addicts would be almost 1 million in that year alone. The growth

*The total number of addicts has been estimated at between 2000 and 3000 in Great Britain. In America, one estimate is 180,000 and another that there are nearly one million addicts.

Figure 4

Addicts known to the Home Office, by source of addiction, 1958 to 1966, GB.

Source: Home Office.



Note: Logarithmic scale.

Figure 5

Addicts known to the Home Office, by age, 1959, 1963, and 1966, GB.

Source: Home Office.

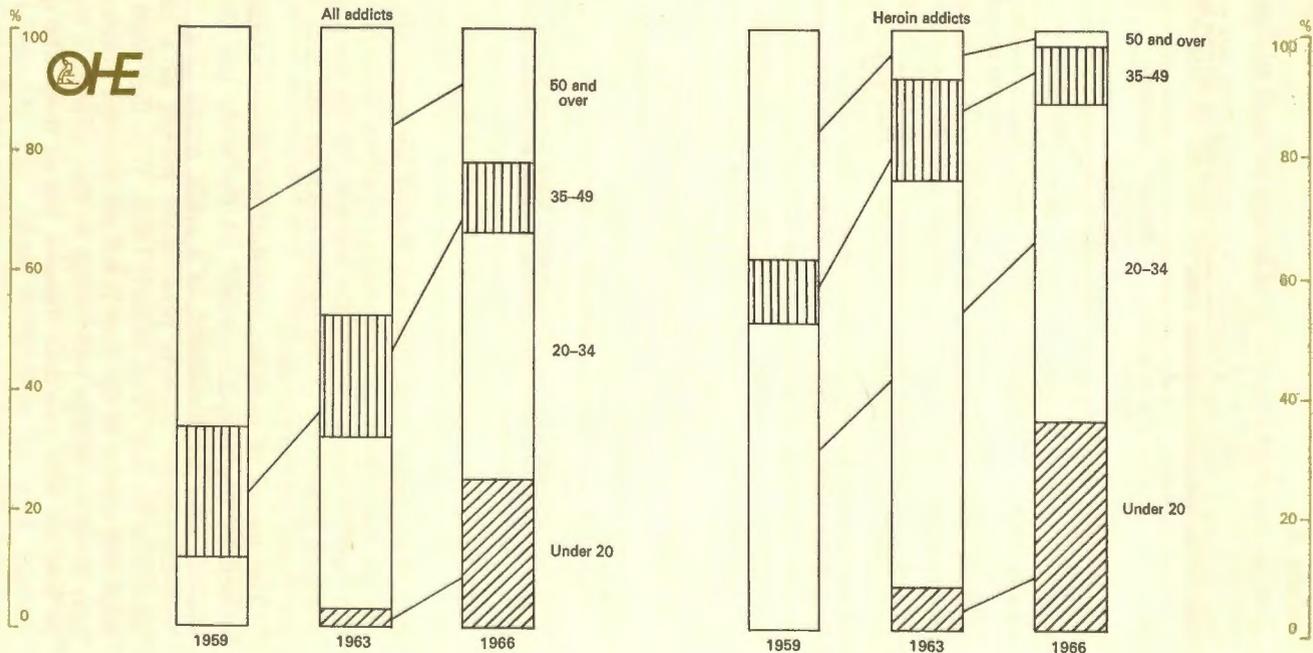


Table A

Number and rates per million of known narcotic addicts, various selected countries,* mid 1960s.

Source: Summary of Annual Reports of Governments relating to opium and other narcotic drugs 1964. UN Commission on narcotic drugs, 1966.

<i>Country</i>	<i>No. of addicts (approx.)</i>	<i>Rate per million population</i>	<i>Comments</i>
GB (1964)	750	15	Mainly heroin
GB (1966)	1,300	25	
Canada (1965)	3,600	180	Mainly heroin. Includes cannabis
Germany (1964)	4,350	80	Mainly synthetics and morphine. Includes amphetamines
Japan (1964)	9,400	100	Mainly opium, morphine and heroin
Hong Kong (1965)	10,900	2,900	Mainly heroin
Korea (1964)	15,000	540	Mainly heroin
USA (1964)	55,900	290	Mainly heroin
Iran (1965)	100,000–200,000 (est.)	6,550	Est. 95 per cent opium, 5 per cent heroin
India (1964)	136,000–opium 200,000–cannabis	290 420	

**Note:* Only those countries which had a substantially higher number of addicts than GB are shown. Many countries reported little or no drug addiction, and for some countries the 1964 UN report showed no figures.

rate of addiction must, however, flatten out eventually (for if it did not, addiction would eventually engulf the whole population); it is possible that we are, at the moment, on the steep part of an s-shaped growth curve but by the 1980s we will have moved to the flatter part of the curve.

The spread of narcotic addiction has almost certainly been caused by the 'non-therapeutic' addicts while the 'therapeutic addicts' may be considered as a static group (Fig. 4). These 'non-therapeutic' addicts presumably started as a handful of addicts in the late 1940s or early 1950s. Who they were and why addiction spread at the time it did are complex questions which may involve a similar relationship to that between a disease and its host. As with infectious diseases, not all those who come into contact with an established addict will themselves become addicted, although they are, in a sense, at risk of doing so. In the

case of heroin addiction, apart from the availability of the drug, personality and behavioural patterns are important factors in becoming addicted. It has been suggested that the spread was aided by the immigration of Canadian and American addicts in the 1950s and it has also been suggested that the prescribing habits of a few medical practitioners helped this spread. There are obviously strong drives for the heroin addicts themselves to spread addiction. There is the financial motive, where by selling part of their prescribed drugs they are able to buy more or to live without working. There is also a social motive, addicts desire their friends to become part of their own heroin culture.

Consumption of Other Central Nervous System Drugs

Narcotic drug addiction statistics have their limitations, some of which have been pointed out. Reliable statistics for the use or abuse of other drugs of interest in this paper are almost non-existent. Cannabis is not used medically in this country and is thus not reported to the Home Office from pharmacy inspections. Cannabis offences under the Dangerous Drugs Act, however, have been recorded since 1929 and these are shown in Figure 6. The extent to which the sudden rise since the mid 1950s is real or due to an increased vigilance of the police and law machinery is not known. That cannabis smoking is comparatively widespread is a feeling shared by many; however this does not confirm any increase. Nevertheless, Bewley considered that 'until a few years ago misuse of cannabis was almost non-existent'. He also suggested that if, for every conviction, 10 or 20 persons are not convicted this will lead to a total rate of 300 per million.⁹ (See Table B.) Research at London University found 4 per cent of students currently using cannabis, while about 10 per cent had smoked it at some time.¹⁰ A recent questionnaire sent to a small sample of Oxford students suggested that 500 students out of 10,000 were smoking cannabis.

Even less is known about the abuse of barbiturates. A large number of barbiturates are prescribed each year, over 17 million prescriptions in England and Wales in 1965, and they are the means used in an increasing proportion of suicides. The information relating to abuse of, or dependence upon, barbiturates is, however, limited, although Glatt suggests that the prevalence of barbiturate dependence is higher than any other drug dependence except alcohol.¹² Some epidemiological research has been conducted about amphetamine abuse, although here again little authoritative information is available. A survey made in Newcastle¹³ suggested that over 500 persons in the town of population 270,000 were dependent on amphetamines. Applying this to the urban population of Britain, one estimate gave 23,000⁸ although

Figure 6

Drug offences, Cannabis, 1929 to 1966, G.B.

Source: Home Office.

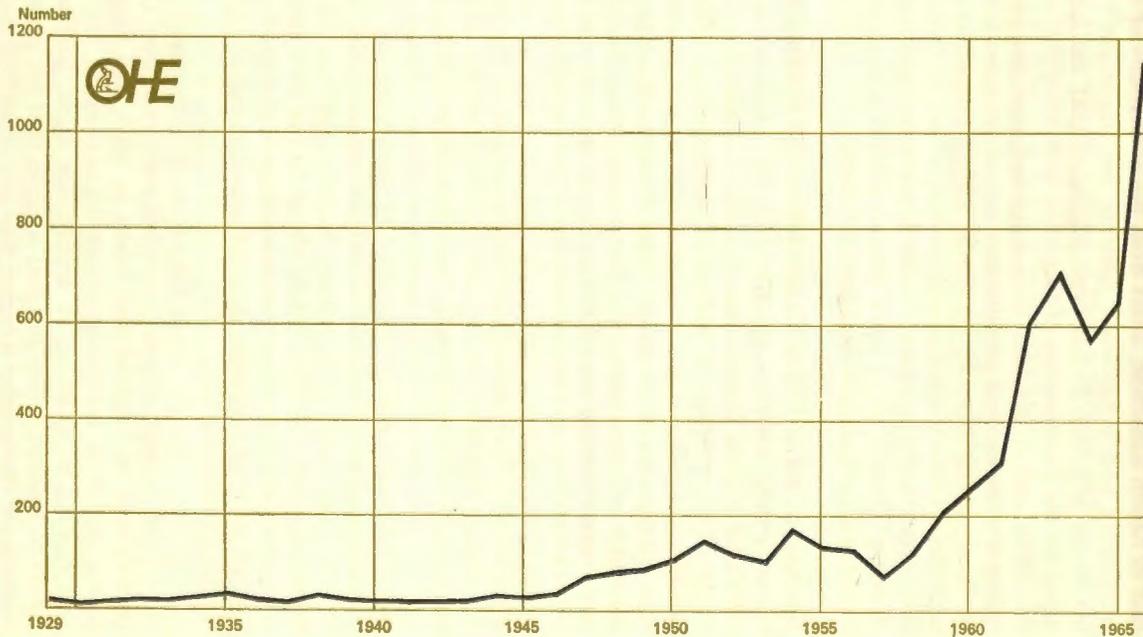


Table B

Estimate of number of drug 'misusers', United Kingdom, 1966

Sources: Derived from Bewley, T. (1966). *Bulletin on Narcotics*, 18, No. 4.

<i>Type of Misuse</i>	<i>Comment</i>	<i>Total No. UK (very approx.)</i>
Hallucinogens	Small amount of illicit use of LSD	Less than 500*
Cocaine	Almost entirely used in combination with heroin	1,000
Morphine	Majority heroin addicts	2,400
Cannabis	Illicit use without dependence	24,000
Amphetamines	(a) Slight dependence on prescribed amphetamines	80,000
	(b) Illicit use of amphetamines	80,000
Barbiturates	(a) Regular use with dependence	100,000
	(b) Regular use without dependence	500,000
Alcohol	(a) Obvious and chronic alcoholics	70,000
	(b) Alcoholics without deterioration	230,000

*This figure relates to 1965. Bewley suggests 500-2500 for 1967.¹¹

Bewley, applying it to the whole population suggested it would possibly be as high as 80,000. He also discussed the prevalence of the taking of LSD and suggested that although only a few hundred persons used hallucinogens in 1965, perhaps one or two thousand did so by 1967.

By very much the largest problem of addiction in the U K, however, continues to be the abuse of alcohol. Various estimates give a total number of alcoholics ranging from 35,000 to 350,000. A recent and more accurate estimate¹⁴ gave the figure at 300,000 of whom some 70,000 would be assumed to show some degree of early physical and mental deterioration.

The Drugs and their Effects on the Individual

Opium is obtained from the papaver somniferum plant by scarifying the unripe seed capsule and collecting and drying the exudate. The substance is a complex mixture containing at least 20 alkaloids. Of these, morphine is present in by far the largest quantity and constitutes about 10 per cent of opium. It is primarily responsible for opium's physiological effects. Heroin is a semi-synthetic alkaloid produced from morphine by the chemical process of acetylation. It is also known as diacetylmorphine or diamorphine. Wholly synthetic narcotics include pethidine and methadone. (Fig. 1.) The latter is particularly used in treatment

to wean addicts off heroin. The morphine derivatives, which are depressants, have properties which include inducing drowsiness, lessening anxiety, inhibiting sexual drives, alleviating hunger and relieving pain. They are used medicinally as powerful pain relievers, for example for the control of post-operative pain and in the terminal stages of cancer. In a large investigation of narcotic addiction in America, Chein *et al*¹⁵ concluded 'opiates are not inherently attractive, euphoric or stimulant substances. The danger of addiction to opiates resides in the person, not in the drug'. It is believed that even for addicts the positive effect of heroin ('pleasure') lasts only for a year or eighteen months, after which the drug is only used to counter the negative effects of not taking the drug.¹⁶ Not every person taking opiates will experience a psychological craving although all will eventually have some physiological symptoms. Addicts themselves often have to take heroin on a number of occasions before becoming addicted.

Heroin may at first be injected subcutaneously but is later almost always taken intravenously. Very often it is taken together with cocaine, a stimulant, to counteract the depressant effects. After a period of regular use, some individuals will become both psychically and physically dependent on the drug. Often tolerance develops (whereby a greater dosage of the drug is needed to produce the same effect) and always the withdrawal syndrome occurs. If opiates are withheld from an addict after physical dependence has developed, withdrawal symptoms occur which include shivering, sweating, watering of the eyes and nose, stomach contractions, explosive vomiting (sometimes with blood), diarrhoea and twitching. For cases where heavy physical dependence has developed these symptoms have been described as an ordeal even for a doctor to watch.¹⁷

Cocaine, a drug derived from the leaves of the coca plant and isolated in the 1850s, is a stimulant. It is rarely taken alone among British addicts but almost always with heroin, known as an 'H and C'. Taken by itself it does not produce physical dependence.

There is general disagreement as to the actual organic effects of opiates on the human body. At a symposium on drug addiction recently there was complete agreement that 'the opiates and cocaine carry serious dangers of organic brain damage and ultimate death'.¹⁸ Kolb suggests, however, that many persons have for years taken as much as 15 grains of morphine a day (three or four times an average dose used by addicts) without showing any ill effects.¹⁹ (Death from an overdose of heroin can occur in a subject whose body is not conditioned to large quantities of opiates.)

Again, 'addiction to opiates does not appear to produce major organic deterioration . . . although addicts do suffer from severe constipation'.¹⁹ In fact, the only reliable experimentation on the chronic long-term direct action effects of narcotics has been with animals and no conclusive results which can be assumed to hold good in man have been obtained. The difficulties of research are unusually complex. To assess chronic long-term effects requires examination of drug addicts after many years of addiction. Addicts sometimes die young. They are generally an unco-operative group. Post-mortem examinations are rare and often at post-mortem it is not established that the person is an addict.

Heroin addiction has a high mortality as a result of disease and accidents but it is possible that these are caused by concomitant factors such as poor nutrition and a general abandonment of a normal healthy way of life. The organic complications of addiction may include hepatitis and bacterial-endocarditis which result from unsterile injections. It is also possible that drug usage may be selected by a physically and/or mentally unhealthy population. Mortality among those in the UK first addicted from illicit sources was found to be 22 per 1000, some 20 times the expected age-specific rate and possibly higher than the rate among US narcotic addicts.²⁰

In America, crime and addiction are often linked. However, this is because to take narcotics, with certain exceptions, is itself illegal. Also addicts commit petty crimes to enable them to continue buying drugs and the same types of personality may be prone to both crime and addiction. Kolb states that 'there is probably no more absurd fallacy than the notion that murders are committed and daylight robberies and hold-ups are carried out by men stimulated by large doses of heroin and cocaine which have temporarily distorted them into self-imagined heroes incapable of fear'.²¹ The general effects of the opiates are just the opposite in that they make the user quiet, docile and often sexually impotent. Thus it seems unlikely that the opiates themselves lead the taker to crime, acts of violence or sexual abuse.

Barbiturates and the amphetamines are synthetic chemical compounds generally taken orally. Barbiturates are addictive in the sense that physical dependence develops. With the amphetamines, it is debated as to whether they are addictive, although generally it is felt that physical dependence only rarely occurs. Taken in excess, they can temporarily cause paranoid delusions, and short lived mental illnesses. A casual relationship between amphetamines and juvenile delinquency is often suggested. One example of evidence put forward to advance this hypothesis is the survey of persons in a remand home which showed that 18 per

cent of admissions had the drug in their urine.²² This is evidence of an association but it does not prove a casual relationship.

Cannabis is a drug obtained from the female Indian Hemp plant, *Cannabis Sativa*; the resin from the flowering tops is dried and usually smoked in cigarette form ('reefer'). It is perhaps best known as marihuana in Britain and America. A special form of recovered resin from the plant itself is referred to as hashish. It has been used medicinally and for pleasure for about 3000 years, although it is not now used in 'western medicine'. Cannabis became illegal in this country and in most countries in the world largely as a result of Dr Wolff's work some 40 years ago for the League of Nations. This work has subsequently been challenged but the UN Commission on Narcotic Drugs still considers cannabis abuse a form of drug addiction and one that is likely to be a forerunner of addiction to more dangerous addictive drugs.²³ Their view is contrary to the evidence found in two extensive American surveys. A study in Panama in 1932/33 concluded that there was no evidence that cannabis is a habit forming drug in the sense applied to alcohol, opium, or cocaine and no recommendations to prevent its sale were deemed advisable.²⁴ (Nevertheless it is now illegal.) A committee in New York in 1944 found that in most instances the behaviour of the smoker is of a friendly, sociable character and aggression and belligerence were not commonly seen. No relationship was found between crimes of violence and cannabis, no association with houses of prostitution and no specific stimulant effects in regard to sexual desires. It was also found not to be a drug of addiction; little or no tolerance developed and the long-term effects showed no mental or physical deterioration attributable to cannabis.²⁵ It would appear to intensify one's state of mind and to produce unreality. Jazz musicians claim that they play better under cannabis but laboratory tests on note identification and beat duration show their performance is in fact worse.²⁶

The opinion now often expressed is that cannabis is a less dangerous and less anti-social drug than alcohol. What evidence there is would appear not to contradict this. Nevertheless, it is a drug acting on the central nervous system, and as such is to some extent dangerous.* A number of incidents have been reported of psychotic episodes brought about by cannabis smoking. The widespread and general use of the drug, say to replace alcohol, would bring with its own problems albeit possibly less severe than those caused by alcohol.

Finally, there is LSD D-lysergic acid diethylamide was

*Chopra and Chopra²⁷ in India concluded that cannabis in moderate use did not lead to insanity or to the taker committing criminal acts. They suggested, however, that confirmed smokers of one form of cannabis exhibited signs of deterioration in their health.

synthesised in 1938 and its hallucinogenic effects discovered in 1943. Other natural hallucinogens, such as mescaline, had been known for many hundreds of years. Although the use of drugs to enlarge psychic experience, as is often the case with LSD is a separate problem from that of addiction, a short summary is made here.

The use of LSD can be attended by serious complications. Suicide, prolonged psychotic reactions and anti-social behaviour have been known and misuse of the drug alone or in combination with other agents has been encountered. The subject may feel he is losing his mind and if the drug is taken without the support and reassurance of trained observers he may act in a way harmful to himself because of his short lived psychosis. However, it is probable that given under medical supervision, only those who are already psychologically unstable are likely to undergo serious schizophrenic-like incidents. The risk of physical addiction is considered to be non-existent.

The relationship between the drug groups under discussion above is still a controversial topic among British psychiatrists. Some favour the escalation theory that claims usage of the 'soft drugs' such as cannabis leads persons to eventually try the 'hard drugs' or narcotics. The only evidence for this is circumstantial in that almost all heroin addicts have previously taken either amphetamine or cannabis. The concomitance of cannabis smoking and subsequent heroin addiction may be due primarily to the fact that both are often available in similar environments or from the same sources. There is no evidence to suggest that the pharmacological action of the 'soft drugs' will lead a person on to 'hard drugs'. The natural history of drug addiction has never been studied. Research is needed to establish the proportion of soft drug users who 'progress' to narcotics. Research is also needed to investigate the personality patterns of drug-user groups.

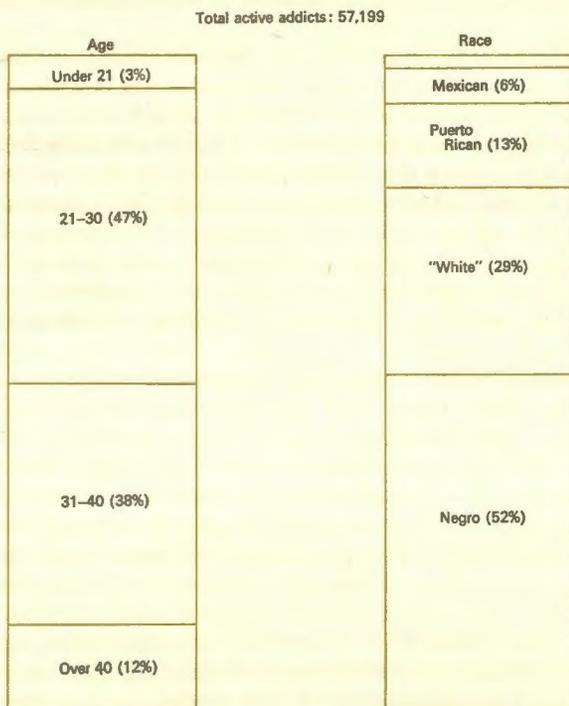
Relationship between Addicts and Society

In a given society at a given time, there are a number of beliefs and attitudes towards uses and effects of certain drugs and a number of ways of perceiving drug users. These beliefs and attitudes may differ from those of the users themselves or from objective scientific information. Drugs thus have to be studied within a given cultural pattern. Different societies, for example, use alcohol in different ways. It has been used for sex, violence, for conviviality and for ritual and sacred purposes. Hashish (cannabis) was used in Mohammedan countries where alcohol was forbidden. Descriptions of the effect of the drug varied from 'its dream-like quality, its capacity to persuade into withdrawal from everyday life' to 'the Hashishin, the assassins who were

Figure 7

Active narcotic addicts reported, by age and race, as at 31st Dec. 1965, United States

Source: Federal Bureau of Narcotics.



supposed to become berserk after smoking hashish and who were employed by the Saracens to attack the crusaders whilst under the influence.^{10*} The Chinese have used opium for many years. Maladjusted Chinese children in Formosa are said to be given opium medicinally but this early opium smoking does not apparently continue for life or lead to gross abuse.¹⁰ At the end of World War II, there was a wave of amphetamine taking among Japanese teenagers. After legislation they took to barbiturates instead.

A great many people are dependent on 'drugs'. Tea, coffee, beer and wine are all taken in large quantities without most people suffering great harm. There has always been an apparent need, or at least desire, by the majority of people to influence

*In fact the Hashishin were not given cannabis to enable them to commit crime but were given it as a reward after the assassinations were committed.

their psychological state. The history of prohibition in America* shows the difficulty of legislative control of an intoxicant which is approved by society even though its abuse far overshadows that of all other substances combined.

A sociological approach to the problem would suggest that in a given society at a given time persons whose 'drug' usage patterns differ from those accepted by society are seen as 'deviants' requiring separation from society. This alters the drug-taker's view of himself and leads him to withdraw further from the larger society, to identify with others like him and to create a subculture. In turn this alienation reduces society's tolerance of drug-users and increases the number of persons perceived as deviant. Heroin addicts, the amphetamine teenage groups, the undergraduate cannabis group are examples of sub-cultures of drug-users in this country.

Two types of opiate sub-cultures have been identified in America. Firstly, there are the urban slum dwelling groups living in extreme poverty, which are associated with the development of unstable family relationships, broken homes, insecurity and mistrust of law and order. In such unfavourable situations the high delinquency rate, the formation of street gangs and the ready availability of illegal drugs all add to increased susceptibility. Secondly, there are the 'avant-garde' and 'beatnik' groups who are not economically or culturally deprived but who feel the need to protest, to express resentment against the existing society. The majority of American addicts belong to the former group.

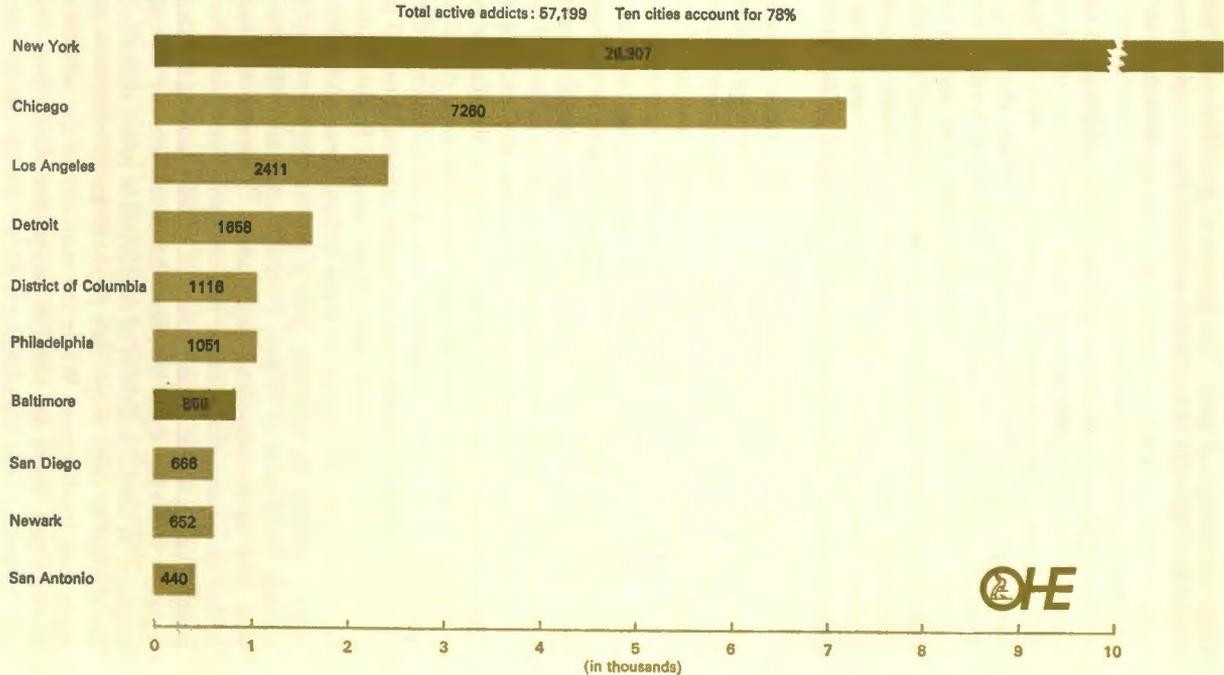
Figures 7 and 8 show the age, race and area distribution of active narcotic addicts reported in the United States at the end of 1965. Addicts are usually young adults (although only 3 per cent were under 21 compared with 16 per cent of British addicts who were less than 20) living in large urban areas and addiction is closely related to minority group status. High rates are found among Americans of Negro, Puerto Rican and Mexican origin who live in metropolitan slum areas. There is evidence that addiction among the Chinese has decreased markedly during the past 30 years, while it has increased rapidly among the negro and Spanish speaking slum dwellers. Most addicts are unemployed, engaged in illegal activities or employed in lower status jobs; they are similar to their respective populations in educational attainment and intelligence. While the majority of the addicts may be so described, there are notable exceptions. Apart from the 'beatnik' group, at least six additional addict groups can be identified.⁶ Until recently no heroin sub-culture existed at all in Britain, where the majority of addicts were scattered individuals generally

*Prohibition was enacted by amending the American Constitution (the 18th amendment) and passing the Volstead Act in 1919. This amendment was repealed in 1933.

Figure 8

Active narcotic addicts reported, by main cities, as at 31 December 1965, United States

Source: Federal Bureau of Narcotics.



unknown to each other. The group that is now growing up is probably nearer to the second type of American opiate sub-culture. It has been suggested that there is a danger, within the next decade or so, of an addict group arising from the new immigrant racial minority groups in Britain, although there is no evidence to support this suggestion at present. Generalisations between the problem of addiction in America and that in Britain could be misleading.

The sociological approaches to drug addiction stress environmental and learning patterns. The more psychologically orientated approach suggests that, although exposure to narcotics can lead to addiction, there are many people in every outbreak of a 'disease' who do not become affected and therefore it is necessary to examine personality factors predisposing to addiction.

It is suggested that opiate addiction is associated with abnormal personality structure. It has been argued that addicts become abnormal because of the drugs they take but most experts would now agree that the growth of compulsive abuse rests more in the nature of the soil rather than in the characteristics of the seed. Compulsive abuse is to be found in emotionally unstable and frustrated persons who seek a means of avoiding reality. It is also suggested that the young addict may come from a family in which there is a very weak and ineffectual father and a relatively strong mother. He may have difficulty in identifying with an adult figure of masculinity and this, for a male addict, might explain the generally disturbed sexual functioning of the addict.

Seen in this way drug addiction can be considered a consequence of personality disorders. It is possible that some drug users may save themselves from severe breakdown or suicide and that the drug improves the addict's immediate social adaptation or efficiency. Winick suggests that the addict slowly matures out of taking drugs and concludes that for two out of three addicts the use of opiates is a process which lasts for a comparatively short part of their lives.²⁸ This piece of research has, however, been severely criticised.²⁹ Lindsmith rejects the idea that addiction can be explained in terms of preaddiction personality traits, although he does not deny that addiction may be much more likely for some personality types than for others.³⁰ There is thus the suggestion that addiction is a psychiatric disability but one from which a number of different types of person can suffer. Chein concludes that there is no evidence that normal individuals would be likely to become addicted even if opiates were freely available. He also concludes that the US Narcotic Laws have created more problems than they have solved.¹⁵

Thus addiction can be described in terms of environment and exposure to risk, in terms of sexual identification, or in terms of

people who have found in drugs a method of coping with the world. There are, as with all 'diseases', degrees of abnormality. Possibly teenagers who take amphetamines eventually mature out of that phase and are not in the main grossly deviant or abnormal personalities. This is perhaps also true of some cannabis users and those experimenting with LSD.

American and British Attitudes to Narcotic Addiction

In America, the first federal narcotic law, the Harrison Narcotic Act, was passed in 1914. It was designed as a taxing law* to control manufacture, sale and usage of narcotics but by 1919 a ruling was made by the Supreme Court that a doctor should not have prescribed narcotics to an habitual user to keep him comfortable without attempting a cure. This led to doctors refusing to accept drug addict patients and has virtually made regular prescribing by general physicians impossible. Due to this and the lack of hospital facilities a number of out-patient clinics grew up in the years 1919 to 1925. These were later agreed to be failures mainly because facilities were inadequate, the doses of narcotics given were too high and no provision was made to treat relapses. By 1924, it was agreed to 'put an end to all manner of so-called ambulatory methods of treatment of narcotic drug addiction, whether practised by the private physician or by the so-called "narcotic clinic" or dispensary'.³¹ All clinics were closed by 1925. In 1930, the Federal Bureau of Narcotics was formed and this body increased the difficulties of a physician wishing to prescribe even for the treatment of addicts. In 1935, the United States Public Health Service hospital at Lexington was established for the sole purpose of treating addicts. In 1938 a second hospital was set up in Fort Worth. These remain the main legal sources of narcotic drugs for addicts in the USA. These hospitals accept both addicted Federal prisoners and also voluntary patients; between 1935 and 1964, 27 per cent of admissions were prisoners. Although these hospitals are ostensibly places of treatment, success rates have not been high. Other laws in the 1950s strengthened penalties for narcotic offenders. Although Federal law sets out to punish illegal possession and sales of narcotics and not to make addiction a specific offence itself, several States went further and made addiction a crime. In 1962, the Supreme Court ruled however, that a law making a criminal offence of a disease (addiction) would be a cruel and immoral punishment and contrary to the Constitution. Since 1962, a reappraisal of narcotic addiction has taken place and there has been official acceptance of the addict as a mentally ill person rather than as a criminal. In 1966, an act was passed to allow for

*This was because the Federal Government had powers to legislate only in fiscal matters.

comprehensive treatment of the addict including provision for after-care help. However, the production and possession of heroin is illegal in America so that anyone taking it is violating at least one law.

The number of known addicts in America has declined from about 150,000 in 1920 to about 60,000 today.* The Federal Bureau of Narcotics suggests that this is justification for their stringent vigilance and strong penal laws. Others suggest that the Bureau has caused the addict to be viewed as a criminal and that its measures have created a large underground black market movement.

In Britain the first move to legislate against narcotics was the 1920 Dangerous Drugs Act, which has been revised from time to time. The purpose of these Acts has been to control the manufacture, import, procurement, sales, supply and export of specified dangerous drugs, mainly the opiates and cannabis, and to make 'illegal' possession of these drugs an offence. The object is to control the non-legitimate trade without interfering with bona fide medical, dental and veterinary use. Authority was granted to registered medical practitioners to prescribe dangerous drugs as far as might be necessary in their professional capacity.

As a result of widespread uneasiness about prescribing situations, the Rolleston Committee in 1926⁸² considered the question of prescribing heroin and morphine. The Committee recommended that the prescription to addicts could be regarded as legitimate treatment in certain cases, namely those persons undergoing gradual withdrawal of the drug or persons to whom the drug could not be withdrawn completely either because complete withdrawal produced serious symptoms or because the patient needed the drug in order to lead a useful and fairly normal life. In 1958, a new committee was set up under Lord Brain; its report in 1961⁸³ did little more than bless the status quo. Between these two reports, in 1955, it had been strongly recommended that there be a total world-wide ban on heroin. The medical profession in Britain argued that heroin had been, and was, a most useful and necessary narcotic for the relief of pain, and for certain patients the only successful pain-reliever. Proposals to ban heroin in Britain were thus resisted.

Following the sharp rise in the number of known heroin addicts since 1961 the Brain Committee was reconvened and reported again in 1965⁴ when a number of positive recommendations were made, some of which are now being incorporated in the 1967 Dangerous Drugs Bill. The main recommendation suggested removing from the general practitioner the power to prescribe

*These figures may not be directly comparable. It has been suggested that many of the 1920 'addicts' were, in fact, mainly women who occasionally drank laudanum.

heroin and cocaine to addicts and to limit prescribing for addicts to licensed doctors working in treatment centres. This recommendation arose because of a supposed over-prescribing by a few doctors which was thought to be the source of the creation of new addicts. A further suggestion of the second Brain report was to set up a standing advisory committee on Drug Addiction. Thus generally in this country, the addict continues to be thought of as a person rather more within the jurisdiction of medicine than the law although there are strong penalties for the illegal (without a prescription) possession of drugs. This illegal possession was extended in 1964 to include the amphetamines (and later LSD) under the Drugs (Prevention of Misuse) Act.

The four main differences between Britain and the United States in the treatment of narcotic addicts are, firstly, in Britain addicts who are legally prescribed drugs are allowed to be ambulatory and administer the drugs themselves. Secondly, heroin is a legal drug which under strict supervision can be prescribed in Britain. Thirdly, in Britain, in certain circumstances, narcotics can be prescribed for maintenance of addiction rather than cure by withdrawal. Finally, at the moment, in this country, general practitioners can prescribe narcotics for addict patients. This is shortly to be more strictly controlled, although practitioners will still be free to prescribe narcotics for their non-addict patients and all but heroin and cocaine for their addict patients.

Treatment of Addicts

It is recognised that many drug addicts are unwilling to be treated. In Britain, at the moment it is considered undesirable to attempt compulsory treatment, although in America much pressure is brought to bear on the addict to obtain treatment, in that it is not possible to continue taking narcotics legally and that Federal prisoners may be admitted to hospital rather than prison if they accept treatment.

The number of addicts admitted as in-patients in England and Wales from 1949 to 1960 is shown in Figure 9; 200 total admissions took place in 1950, but only 92 of these were for first admissions. In 1963, over 100 patients were being treated for drug addiction (over 850 for alcoholism) although in that year over 600 addicts were known to the Home Office.

Various methods of treatment are available, the main one being a slow withdrawal from the drug of addiction by weaning the addict on to the synthetic narcotic methadone. Although this in itself is addictive it is an easier drug to control and it allows a more stable living pattern. In addition to this, supportive treatment such as group psychotherapy is often undertaken. The results of treatment to date have not been promising, most

'success' rates being in the region of 20 per cent. In Lexington between 1942 and 1955, 90 per cent of discharges were readdicted within five years,³⁴ Bewley found over 80 per cent of a 10 year series remained addicted or died¹⁵ and other workers have found between 10 per cent and 40 per cent success rates.

It is now realised that, as with all psychiatric illnesses, treatment alone is not sufficient. It is essential to have follow-up therapy and rehabilitation which may be necessary over a period of years. At the New York Demonstration Center experimentation is being conducted along these lines and also in New York, Daytop Village has been started. This is a residential community of addicts who have given up taking the drug; it is run by ex-addicts. It is run on similar lines to Synanon in California where they claim 90 per cent of admissions are drug free some years later, although they accept that they have a highly selected sample of patients.

The three large problems which surround treatment are, firstly, some addicts claim they are not ill and therefore do not need treatment, secondly, many of those who start on treatment discharge themselves half-way through and, thirdly, the success rate of current treatment methods is low.

Concluding Remarks

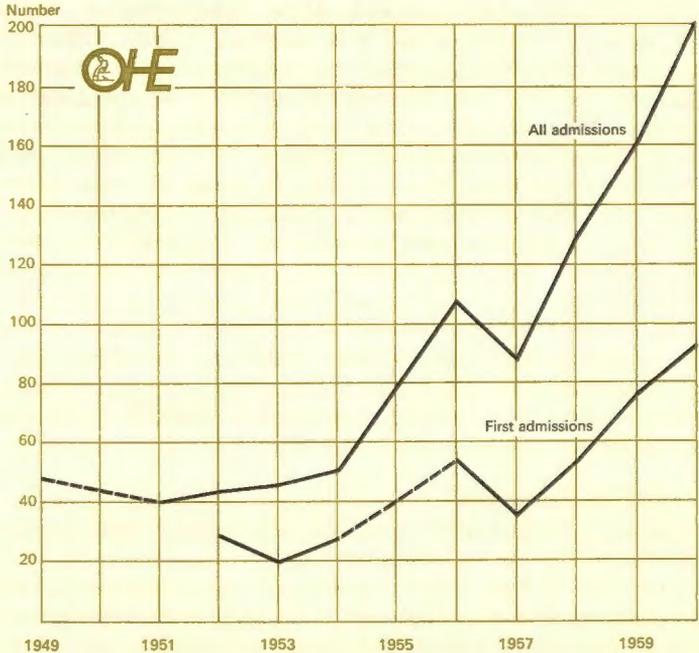
Although the subject of drug addiction is fraught with disagreement, the one point on which most people do agree is the need for further knowledge. Many studies have been conducted in the United States and elsewhere but little large-scale co-ordinated research has taken place in Britain, although a number of doctors have been conducting their own investigations for some time. Following the second Brain Committee Report a research unit has been set up at a London Teaching Hospital.

Further study is needed to examine factors controlling drug usage in different societies and cultures; for example, the purpose and method of use of opiates and cannabis among different groups within America, Europe, Asia and India. There is a need for epidemiological studies to identify potential addicts, with a view to prophylaxis, before they become addicted. A key research project would be to analyse the circumstances under which some cannabis users 'progress' on to heroin addiction while others do not. Further pharmacological research to elucidate the exact long-term effect of drugs on the human body is also needed and research into treatment and rehabilitation methods is of the utmost concern.

It is also generally agreed that there is a need for improved statistics and also for greater exchange of international research work. Much research has been done in Scandinavian countries

Figure 9**Drug addiction, mental hospital admissions, 1949 to 1960, England and Wales**

Source: Registrar General's Statistics Review of England & Wales, Supplement on mental health. Various years.



and in Holland which, unlike the research in America, has not been circulated. This might be collated and co-ordinated. Perhaps a government sponsored institute for the study of addiction is needed to foster adequate research and facilities for the study and treatment of drug addiction.

A further avenue for research and one which has proved encouraging is the development of narcotic-antagonists. These are powerful pain-relieving analgesics, which it is hoped are non-addictive. They can also be used in the treatment of addiction. Much intensive pharmaceutical research is being conducted along these lines as is research into the physiology of pain. It no longer seems that 'searching for a non-addictive pain-killer is a modern day search for the Philosophers Stone'.³⁵ However, even if it does prove successful this would not prevent the development of heroin sub-cultures dependent on the black market.

Man has always demanded sedatives and euphorants to fortify his body and his mind. This has been recognised through the ages in the use of drugs such as alcohol and caffeine. Parallel to this, there has always existed the danger that such drugs would be misused or abused. The concept of drug *abuse* is a dynamic one, but it necessarily involves a detrimental effect on society and, or, the individual. The harm to society comes from a serious disruption to its social, economic or political structure. Harm comes to the individual from physical deterioration or by allowing the drug to become a primary need, replacing other drives. This, in turn, leads the individual to become a-social.

The degree to which the use of a specified euphoriant will lead its taker to abuse it and perhaps, subsequently, other more powerful drugs is significant. Although many millions of persons drink alcohol in this country, it is misused by only a minority – albeit an important minority and one which presents a problem out of all proportion to that caused by drugs of addiction. Heroin, on the other hand, would lead the majority of its regular users eventually to abuse it. In Britain, heroin addiction may well become a serious threat to our society and our economy. Only a small minority of heroin users continue to live normal productive lives and many addicts rapidly ‘infect’ other susceptible people. This is clearly detrimental and strict control of heroin and other narcotics is essential.

A new and acute situation has arisen in the Western World, and in Britain in particular, in the mid 1960s, with the introduction of new drugs and with the more widespread use of older ones whose effects are not fully understood. Apart from the narcotics, there are the three drug groups (cannabis; the amphetamines and the so-called mind-expanding drugs such as LSD) for which the degree of abuse, the relationship between their use and abuse, and the relationship between the use of one drug to the use of another have been little studied. Medical evidence is that the amphetamines, like heroin and the narcotics, are associated with an unacceptable incidence of harmful effects and too great a tendency to misuse and excessive consumption. With the hallucinogens, such as LSD, it is generally agreed that widespread and uncontrolled use would be dangerous and unwise. On cannabis there is, at present, less agreement. So far, the use and risks of cannabis, in particular, have been examined in Britain only in the context of a society which as a whole regards its use as unacceptable.

Society can attempt to maintain certain behaviour by its citizens either by social and moral pressures or by legislation. Currently, attempts are being made to control the use of cannabis, the amphetamines and hallucinogens and the narcotics by

strict and rigidly enforced legislation. However, this legislation, in part, may not be based on sound scientific evidence and may embody moral tenets which are not shared by all sections of the population.

To link heroin and cannabis in a single class of substances causes public confusion, and enhances the difficulties of law enforcement. It is obvious that each class of drug must be treated separately and a single overall concept of 'drugs' must be abandoned. Few question that the non-medical use of heroin is undesirable and that strict legislation and control is necessary to prevent its use spreading. It is also true that at this stage there is insufficient evidence to support a decision to relax control on cannabis, whose use certainly involves some risk.* Nevertheless, a minority of the population do not consider, from their experience, that it is a dangerously harmful drug. Because these minority groups are likely to grow larger and more vociferous, their views must either be contradicted as soon as possible by firmly based scientific fact or else accepted as valid, again on the basis of scientific judgement.

However, although on the basis of this type of evidence individual attitudes in this or other areas may be justified or repudiated, it seems less likely that behaviour will, in the short term, be markedly influenced by such findings. Even if at some future date a demonstrably 'superior' euphoriant, apparently free from risks, were to be developed, it would be unlikely to achieve universal acceptance and appeal. Because of human variability, the perfect anodyne for one will always be poison to another. And, regrettably, for some inadequate people, the fact may remain that a drug will only appeal if it is regarded as unacceptable by society as a whole.

*If evidence was forthcoming, any relaxation would have to meet Britain's international obligations.

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