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John B. Murray, C.M.

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# PSYCHOLOGY AND THE DRUG ADDICT

JOHN B. MURRAY, C.M.\*

THE STATISTICALLY "TYPICAL" NARCOTICS ADDICT in the United States lives in a metropolitan area, is unmarried, between 18 and 25 years of age, a member of a minority group, and comes from a low socioeconomic level.<sup>1</sup> The wave of drug addiction among the youth has caused concern to parents, educators, and civic officials. A psychologist on the staff at the Federal Hospital in Lexington, Kentucky, remarked at the appalling dearth of good psychological studies on this depressing sickness in our midst.<sup>2</sup> What is drug addiction? How serious a problem is the misuse of narcotics in the United States? What drugs have addiction potential? How well does research delineate the person who has most to fear from addictive drugs? What methods can claim good success in "curing" a condition with a notorious relapse record? Around these questions this review of the problem of drug addiction has been organized.

## Nature of Drug Addiction

Dr. Charles Towns of New York City, at the turn of this century, first recognized the threefold nature of drug addiction which still holds today:

1. compulsive need;
2. the inevitable increase in tolerance and demand for greater drug intake;
3. the characteristic relapse after withdrawal from the drug.<sup>3</sup>

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\* Chairman, Department of Psychology, St. John's College, New York; A.B. (1937), St. Joseph's College; M.A. (1945), Niagara University; M.A. (1949), Ph.D. (1957), Fordham University.

<sup>1</sup> Modlin & Montes, *Narcotics Addiction in Physicians*, 121 AMER. J. PSYCHIAT. 358 (1964).

<sup>2</sup> Hill, Book Review, 2 CONTEMP. PSYCHOL. 113 (1957).

<sup>3</sup> NYSWANDER, THE DRUG ADDICT AS A PATIENT 3 (1958).

Very similar to the earlier view of Towns, was D. C. Cameron's description of the characteristics of narcotic addiction, namely:

1. psychological dependence; drugs are used as a "relief" or "crutch" enabling the addict to feel better;
2. tolerance; the effectiveness of drugs diminish with use;
3. usually physical dependence.<sup>4</sup>

The World Health Organization (WHO) has also described three characteristics of drug addiction:

1. overpowering desire or need to continue to take the drug;
2. tendency to increase the dosage;
3. psychic and sometimes physical dependence.<sup>5</sup>

Given the overpowering or compulsive need for narcotics, it is understandable why the drug addict participates in robbery, prostitution, beggary, or whatever is necessary to obtain the drug of his choice. Narcotics themselves pacify and sedate; they desexualize homosexual as well as heterosexual interests; sexual initiative and aggression are strongly reduced or abolished by drugs.<sup>6</sup>

Tolerance means that the effectiveness of a drug for that person as he continues to use it tends to diminish and an increasing dose is necessary to produce the desired effect. One narcotic addict built up to sixty-four grains of morphine sulphate

per day—at least fifty times the usual therapeutic dose for relief from severe pain.<sup>7</sup>

Physical dependence means that continued use is necessary for the drug addict, not only to feel "normal" psychologically, but to prevent the onset of an actual physical illness referred to as the abstinence syndrome or "withdrawal symptoms." Not all drugs bring about physical dependence; narcotics, barbiturates, and alcohol do induce physical dependence but marihuana, cocaine, and the amphetamines do not.

The abstinence syndrome is manifested in different ways depending upon the addicting drug and the intensity of use. Allowed to run its course without correct treatment, withdrawal of narcotics may induce: sweating, rhinorrhea, muscular aching, tremulousness, nausea, vomiting, diarrhea, and, in debilitated cases, even collapse and death.<sup>8</sup> The syndrome induced by withdrawal of barbiturates is characterized by: anxiety, weakness, tremor, confusion, and often delirium and convulsions.<sup>9</sup>

Psychological dependence refers to the "relief" or "crutch" phenomenon, that is, drugs make the addict "feel better," or "not feel" in some cases. A sense of elation or well-being greater than normally experienced may attract the drug user in the early phases of addiction. However, this euphoriant effect is usually lost as the addiction progresses. The person continues to take drugs just to feel "normal" by

<sup>4</sup> Cameron, *Addiction—Current Issues*, 120 AMER. J. PSYCHIAT. 313, 314-15 (1963).

<sup>5</sup> Lehmann, *Phenomenology and Pathology of Addiction*, 4 COMPREHEN. PSYCHIAT. 168, 169 (1963).

<sup>6</sup> Brill, *Misapprehensions About Drug Addiction—Some Origins and Repercussions*, 4 COMPREHEN. PSYCHIAT. 150, 155 (1963).

<sup>7</sup> Cameron, *supra* note 4, at 315.

<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*; see Blachly, *Procedure for Withdrawal of Barbiturates*, 120 AMER. J. PSYCHIAT. 894 (1964).

which he often means free of tension. Without this psychological "need" there would be little if any addiction.<sup>10</sup> So tremendously important is the psychological dependence that H. E. Lehmann believes that it is no longer accurate to distinguish between addictive and non-addictive drugs.<sup>11</sup>

A. Wikler included psychological dependence in the definition of drug addiction:

Drug addiction may be said to exist when the behavior of an individual is determined to a considerable extent by the availability, for his use, of chemical agents which are harmful to himself, society, or both.<sup>12</sup>

J. R. Nichols<sup>13</sup> and J. R. Weeks<sup>14</sup> devised procedures, based on operant conditioning, which produced sustained opiate-directed behavior in rats. Man's physiological reactions have been duplicated in rats and also in chimpanzees, but not his psychological dependence. The animals manifest no desire for the drugs two weeks after the experiments cease. Hence, addiction in the full human sense has not been produced in animals.<sup>15</sup>

### Gravity of Drug Addiction in the United States

When one asks how serious is drug addiction, many divergent answers are prof-

ferred. For example, authorities assure us that the incidence of drug addiction has declined in the United States from a peak between 1860-1875.<sup>16</sup> At that time, drugs like laudanum and paregoric were sold over the counter and many homes stocked a ball of opium. By 1863, twenty years after Alexander Wood invented the hypodermic needle, estimates of addiction in the United States ran as high as 4% of the population.<sup>17</sup> The number of addicts in the United States has decreased sharply since the passage of the Harrison Narcotic Act in 1914 (from 1 in 400 to 1 in 3800 in 1958), despite an increase in the total population. Moreover, authorities point to waves of drug use similar to that present in the 1910's and 1920's.<sup>18</sup>

However, the incidence of drug addiction of 1 in 3800 in the United States does not compare favorably with either Canada's incidence (1 in 6000) or Germany's (1 in 10,000). Japan, which scarcely knew drug addiction before World War II, has experienced a great increase in addiction among young people since the war and the American occupation.<sup>19</sup>

Misuse of narcotics by the young fits the pattern of "thrill seeking" and "fads" symptomatic of the adolescent age. The adolescent has taken up not only narcotics but "glue-sniffing" and "gasoline-sniffing." No evidence indicates that these substances produce any increase in tolerance or physi-

<sup>10</sup> Cameron, *supra* note 4.

<sup>11</sup> Lehmann, *Phenomenology and Pathology of Addiction*, 4 *COMPREHEN. PSYCHIAT.* 168 (1963).

<sup>12</sup> NYSWANDER, *op. cit. supra* note 3, at 39.

<sup>13</sup> Nichols, *A Procedure Which Produces Sustained Opiate-Directed Behavior (Morphine Addiction) in the Rat*, 13 *PSYCHOL. REP.* 895 (1963).

<sup>14</sup> Weeks, *Experimental Narcotic Addiction*, *Scient. Amer.*, March 1964, p. 46.

<sup>15</sup> See Nichols, *supra* note 13, at 895-96.

<sup>16</sup> Bowman, *Past, Present and Future in the Treatment of Drug Addiction*, 4 *COMPREHEN. PSYCHIAT.* 145 (1963).

<sup>17</sup> NYSWANDER, *op. cit. supra* note 3, at 2.

<sup>18</sup> Bender, *Drug Addiction in Adolescence*, 4 *COMPREHEN. PSYCHIAT.* 181, 192 (1963).

<sup>19</sup> Lehmann, *supra* note 5, at 168-69.

cal dependency.<sup>20</sup> Curiosity and group conformity seem to be the most important motivation for their use. D. P. Ausubel has recommended the term "reactive addiction" for the young who use drugs as a form of exaggerated rebellion.<sup>21</sup> L. Bender believes that they should be called "drug-users" not "drug-addicts."<sup>22</sup> Nonetheless, a 38% increase in drug addiction in the school age group has caused great concern to parents.

Most authorities believe there are 40,000-60,000 drug addicts in the United States. Others argue that the enormity of drug addiction can hardly be estimated because its criminal nature drives underground the users, sellers, and producers. Far more lives are ruined by alcoholism than by drugs, but narcotics are against the law, and in the United States the steady user of narcotics must flirt with law to obtain a steady supply for his habit. It is not a crime to be an addict, but it is against our laws to buy, sell, or use addictive drugs.<sup>23</sup>

Before the Harrison Narcotic Act,<sup>24</sup> use of narcotics, especially in the form of opium smoking, had no more criminal implications than the customary cocktail. Addiction was neither a psychiatric nor legal entity until the beginning of the

twentieth century. Ancient records suggest that the Sumerians and Assyrians knew the addictive properties of opium. There were many opium addicts in Europe in the sixteenth century.<sup>25</sup> England introduced opium smoking to China in the eighteenth century. From China, by way of Calcutta, opiates came to the United States. They were probably imported through the port of New Orleans, whose inhabitants experienced serious drug addiction problems before other parts of the country.<sup>26</sup> Drug use, at that time, was a man's private business. Freud told his wife that he had used cocaine for a short time.<sup>27</sup> Literary men like DeQuincey and Baudelaire used opiates and bequeathed to the public an exaggerated picture of their effects; typically, drug experience is contentless or content-poor; moreover, the power over the addict reaches beyond mental states, dreams, and hallucinations, and becomes total.<sup>28</sup>

In 1912, an international convention at the Hague agreed to suppress the abuse of opium, morphine, and cocaine. The Harrison Narcotic Act of 1914 was a revenue act designed to control production, manufacture, and distribution of addictive drugs by requiring registration of all transactions, however insignificant. Enforcement of the law was placed in the hands of the Bureau of Internal Revenue, and federal agents were empowered to

<sup>20</sup> Lawton & Malmquist, *Gasoline Addiction in Children*, 35 PSYCHIAT. QUART. 555 (1961).

<sup>21</sup> Ausubel, *Causes and Types of Narcotic Addiction: A Psychosocial View*, 35 PSYCHIAT. QUART. 523, 527 (1961).

<sup>22</sup> Bender, *supra* note 18, at 187.

<sup>23</sup> E.g., Opium Poppy Control Act of 1942, 56 Stat. 1045 (1942), 21 U.S.C. §§ 188-188n (1964); N.Y. PEN. LAW §§ 1751-1753; CAL. HEALTH & SAFETY LAW §§ 11500-11504.

<sup>24</sup> 38 Stat. 785 (1914).

<sup>25</sup> Felix, *An Appraisal of the Personality Types of the Addict*, 100 AMER. J. PSYCHIAT. 462 (1944).

<sup>26</sup> Zimmering, Toolan, Safrin & Wortis, *Heroin Addiction in Adolescent Boys*, 114 J. NERV. MENT. DIS. 19 (1951).

<sup>27</sup> Lehmann, *supra* note 5, at 168.

<sup>28</sup> Brill, *supra* note 6, at 153.

investigate and prosecute violations. As loopholes in the law appeared, the Supreme Court upheld greater activities by federal agents until they achieved control of the domestic narcotic traffic and of medical treatment of addiction.<sup>29</sup>

The use of narcotics has been shaped by many different cultural patterns. In China, opium is smoked in a social setting one night a week. Opium smoking in China fulfills a different purpose than for our narcotic addict; the Chinese men sit smoking opium while they converse in an unhurried, thoroughly enjoyable manner; they seek merely a state of relaxation, quiet contemplation, and social conversation. In many countries opium smoking is enjoyed by adults in family gatherings; in others, the practice has no more significance than the Frenchman dropping into a bistro for a glass of wine. Drug addiction in the United States has been identified largely with urban area slums along both sea coasts. In countries like China, opium use occurs in all strata of society, and it is not connected with the criminal, indigent, itinerant fringe of society.

A further complication in discussion of the gravity of drug addiction is the myriad uses possible for drugs. Narcotics have been termed the "divine medicine" mostly for their pain-killing effects. But drugs do different things for different people, and different things for the same people at different times. Drugs help some to stay awake, and induce sleep in others; they have both an euphoriant and sedative effect; they give relief from pain, from

fear, from anxiety, and even from excessive passivity.

### What Kind of Drugs Have Addiction Liability?

The Harrison Narcotic Act banned drugs which were considered dangerous because of either physiological or psychological addiction liability, principally, opium and opium-derivatives. In subsequent years many synthetic morphine surrogates (opioids), clinically interchangeable in all major respects, although not opium-derivatives, have been added to the list of banned drugs. Marihuana was ruled a narcotic and its manufacture made illegal in 1937.<sup>30</sup>

There are two major and distinct classes of opium derivatives:

- A. *phenanthrene group*: morphine, codeine, thebaine;
- B. *isoquinoline group*: papaverine, narcotine (noscapine), narceine.

The Narcotics Regulations divided drugs into four categories:<sup>31</sup>

- A. *highly addicting*:  
opium and its derivatives and compounds; phenanthrene opium alkaloids, salts, derivatives, extracts or compounds; meperidine (pethidine), its salts and compounds; opiates, their salts, derivatives and compounds (opiates are derivatives of methadone, morphinian, meperidine, and thiambutine); coca leaves, their alkaloids, derivatives.
- B. *little addiction liability*:  
1. isoquinoline alkaloids of opium, narcotine, papaverine, cotarnine,

<sup>29</sup> See Murtaglo, *Legal Aspects*, in PROBLEMS IN ADDICTION: ALCOHOL AND DRUG ADDICTION 238 (Bier ed. 1962).

<sup>30</sup> Marihuana Tax Act, 50 Stat. 551 (1937).

<sup>31</sup> See generally THE PHARMACOLOGICAL BASIS OF THERAPEUTICS (Goodman & Gilman eds. 1965).

- narceine, and meconin;
- 2. apomorphine;
- 3. nalorphine;
- 4. codeine;
- 5. hydrocodone and dihydrocodeine;
- 6. dionin, or ethylmorphine.

C. *exempt narcotics.*

D. *especially exempt.*

The use of drugs by addicts can be divided into two classes:<sup>32</sup>

A. *increment producing:*

- 1. thrills, kicks, pharmacogenic orgasm—heroin is most commonly used;
- 2. facilitative, increasing self-assertion, spontaneity, and decreased effort—amphetamines most often used;
- 3. derealizing, for those who seek a world transformed—mescaline and the psychotomimetic drugs are used.

B. *decrement producing:*

- 1. disinhibiting, to remove inhibitions and induce gratifying fantasies—alcohol, barbiturates, are the drugs of choice;
- 2. tranquilizers, to those suffering from anxiety, tension—bromides, barbiturates, meprobamate are used;
- 3. stupifying, for a small group of skid row alcoholics, and barbiturate addicts.

The "increment producing" drugs are favored by the younger set and by the non-addict teenagers who seek drugs for thrills. The dangers of drugs like marihuana and lysergic acid diethylamide (LSD) for

young people is not that they are addictive in the sense of producing physical dependence and withdrawal symptoms, nor that tolerance is increased. The danger lies in creating a "bondage,"<sup>33</sup> the threat of psychological dependence upon such pharmacological crutches, and the likelihood that use of marihuana and LSD will entangle them with narcotic addicts and dope peddlers. The danger of exposure to the sources of narcotics is real, but it must be clear that persons become addicted through their own initiative while associating with groups of addicts. This is true of young as well as older cases.

All drugs in the phenanthrene group have cross tolerance, so that clinically, morphine and codeine are interchangeable. The pharmacologically active constituents of opium are alkaloids, which make up about 25% by weight of opium. Alkaloids are prepared in over a score of forms, but the best known preparations of opium are: powdered opium (the official form), tincture of opium (laudanum), and camphorated tincture of opium (paregoric).

#### *Morphine*

Morphine occurs naturally in opium (10%) and is the most widely used opium derivative. Morphine's structure was discovered in 1925 and its synthesis, though difficult, has been accomplished. Morphine sulphate which is white and bitter to the taste is the most popular form, but other preparations, such as, morphine acetate, morphine hydrochloride, and morphine tartrate are available.

Opium alkaloids, like morphine and codeine, do not have any local anesthetic

<sup>32</sup> Lehmann, *supra* note 5, at 170-71.

<sup>33</sup> See Rado, *Fighting Narcotics Bondage and Other Forms of Narcotic Disorder*, 4 *COMPREHENSIVE PSYCHIATRY* 160 (1963).

action, are not absorbed through the skin, and may irritate the skin and mucosa. Morphine is absorbed readily but somewhat unpredictably from the gastrointestinal tract and subcutaneous tissues. Morphine's absorptive property makes intravenous injection usually unnecessary in medical practice. Addicts employ injections in order to enhance its excitatory effects.

Morphine acts on the smooth muscles of the stomach to reduce gastric motility and contract the pyloric sphincter, hence, its usefulness as a relief for diarrhea. It has little if any effect on heart rate or blood pressure. Some evidence suggests that it acts on postganglionic elements. The relief of pain is one of morphine's outstanding effects, but it is relatively selective in that it does not obtund other sensory modalities. Indeed, pain as a sensation may not be altered, whereas, the ability to tolerate the reactive component, suffering, seems to be increased. In this sense, the effect of morphine on pain perception has been compared to that of prefrontal lobotomy.<sup>34</sup>

Morphine leaves traces in all body fluids, but the biggest excretion is in the urine. The clinical effects of morphine wear off within four hours, but actual detoxification may spread over twenty-four hours. About 90% of a given amount of morphine is excreted within twenty-four hours, and about 90% is detoxified by the liver. Once, it was believed that if an individual experienced no initial relaxation or exhilaration to morphine he was safe

<sup>34</sup> Wikler, *Sites and Mechanisms of Action of Morphine and Related Drugs in the Central Nervous System*, 2 PHARM. REV. 435, 444 (1950).

from addiction. Now it is known that one can begin with no reaction but, on later use, can experience euphoric sensations. The assumption that anyone could not become addicted is considered to be fallacious and dangerous.<sup>35</sup>

#### *Codeine*

Codeine is another natural alkaloid of opium. Its analgesic influence is less than morphine's. Codeine is an addicting drug beyond question, despite earlier statements to the contrary. Codeine has been used in many cough remedies, like elixir of terpin hydrate, which contains about 1% codeine per fluid ounce. Analgesic actions have been separated from antitussive activity and a number of non-narcotic, non-addictive antitussives are available.

Codeine produces a slight "lift," too mild for most addicts, but it has become popular with teenagers who use it to wash down "goofballs" or barbiturates. Other derivatives of codeine, eukodal, dicodid, and hycodan, were developed in the continuing effort to discover a drug without addictive liability. But the goal remains unrealized and all these drugs are under federal control. Such drugs are available only on a doctor's prescription, which may not be refilled without the doctor's authority.

#### *Apomorphine*

Apomorphine is obtained by treating the morphine molecule with strong mineral acids. The analgesic action is diminished but it retains the capacity to produce a combination of CNS excitation and depression. Its principal therapeutic use is in the production of emesis. There is no

<sup>35</sup> NYSWANDER, *op. cit. supra* note 3, at 20, 43-44.



evidence that apomorphine is less in addictive liability than morphine.<sup>36</sup>

#### *Dilaudid*

Dilaudid is listed as a semisynthetic morphine derivative; chemically it is known as hydromorphone hydrochloride. First isolated in 1923, dilaudid was once believed to be non-addicting, but it has been a choice of addicts and is truly addictive. Since its effect is shorter in duration than morphine, injections are needed more frequently, thus increasing the addiction liability.

#### *Demerol*

Demerol (dolantin, dolantol, meperidine, pethidine) is a synthetic analgesic developed in 1939. Because it is chemically dissimilar to morphine, for a long time it was thought to be free of morphine's addictive property. Many users who have been addicted to demerol have come to Lexington, Kentucky for treatment, and experiments with patients using demerol have demonstrated that it is, indeed, addictive.<sup>37</sup> Many doctors and nurses especially have been addicted through the use of demerol.<sup>38</sup> Ketobemidone is one congener of demerol which has produced marked physical dependence and more severe withdrawal symptoms. Like dilaudid, demerol's effects do not last as long as morphine and the drug must be repeated at short intervals, thereby reinforcing the drug-seeking behavior.

#### *Methadone*

Methadone (amidone, dolophine, abanon) is a synthetic analgesic which was

picked up by chemists in Germany after World War II. Although its chemical structure only remotely resembles morphine's, its effects are almost the same, hence, its neurophysiological action is presumed to be the same as morphine's. Research at Lexington, Kentucky has proved methadone to be addictive.<sup>39</sup> Tolerance to methadone develops more slowly than to morphine, especially in the depressant effect. Physical dependence has been demonstrated as well. Because methadone's withdrawal symptoms are milder than morphine's and later in appearance, it has been employed as a substitute for morphine or heroin addiction. Once the addict has recovered from heroin or morphine addiction, a program is begun to withdraw him from methadone. Its use in the treatment of narcotic abstinence syndromes has attracted attention to methadone. It is acceptable to narcotic addicts and is frequently preferred, although its euphoric effects do not seem to be as great.

#### *Heroin*

Heroin is a synthetic alkaloid produced by heating morphine with acetyl chloride. Heroin was discovered in 1898, and was welcomed as an answer to morphine addiction because it relieved morphine withdrawal symptoms. It was substituted for morphine in cough medicines and tonics. Heroin's effects are essentially the same as morphine except that their onset is more rapid.

Heroin has greater addictive liability than morphine, and is the choice of most addicts. It may be sniffed, injected under the skin or intravenously. Injection in the

<sup>36</sup> Jaffe, *Narcotic Analgesics*, in *THE PHARMACOLOGICAL BASIS OF THERAPEUTICS* 247 (Goodman & Gilman eds. 1965).

<sup>37</sup> Modlin & Montes, *supra* note 1.

<sup>38</sup> Modlin & Montes, *supra* note 1, at 360.

<sup>39</sup> Cameron, *supra* note 4, at 315.

vein produces a faster action and more intense satisfaction. Once heroin is used nothing else really satisfies, although the addict may resort to morphine as a second best.<sup>40</sup>

Use of heroin almost ended during World War II when transportation avenues were concentrated on the war effort and opportunities to smuggle the drug were reduced. Many addicts switched to morphine and less addictive drugs, and some discontinued their usage of drugs, "matured out," and stayed clean. Much of the heroin entering New York comes from Turkey. The Turkish government licenses farmers to grow opium for pharmaceutical and medical markets. Despite its best efforts to control the opium crop, some can be smuggled into Syria and Lebanon, and from there to Marseilles, France where secret factories convert the morphine base into heroin. Egypt and Mexico also produce opium, and they do not have the strict controls that Turkey imposes. Heroin is also manufactured in Italy under very strict government control. Heroin is smuggled into the United States in pure form; its manufacture has been forbidden here since 1925.

Once in the United States heroin is mixed with pure milk sugar; the "cut" depends on many factors, greed being one, but the dose which can be bought on the street usually is about 10-20% pure heroin. Each ounce of heroin contains over 15,000 grains, and the usual dosage for the addict is one grain taken four to six times a day, at a cost of about five dollars for three grains. As each handler takes some heroin

for his own use, he may again mix it with sugar. The last buyer receives heroin in a much diluted form, but it still has profound effects. The experience of New York City hospitals indicates that the heroin purchased by many addicts is weakened, because withdrawal symptoms are often minor or even non-existent.<sup>41</sup>

#### *Barbiturates*

There is no question of the addictive nature of barbiturates. Isbell, Altschul, Kornetsky, Eisenman, Flanary, and Fraser's study,<sup>42</sup> using patients previously addicted to opiates, proved conclusively that tolerance to barbiturates developed in varying degrees. A definite abstinence syndrome follows abrupt withdrawal of barbiturates.<sup>43</sup>

The incidence of compulsive abuse of barbiturates cannot be stated with accuracy, but taken together with the abuse of related drugs, for example, meprobamate, it probably exceeds the abuse of opiates. Illegal traffic in barbiturates is common. Opiate users often use barbiturates to boost the effects of weak narcotics. Heroin users are often physically dependent on both opiates and barbiturates. The short-acting barbiturates, for example, pentobarbital, are preferred to long-acting agents like phenobarbital. Most barbiturate users

<sup>40</sup> Ray, *The Cycle of Abstinence and Relapse Among Heroin Addicts*, 9 SOC. PROBL. 132 (1961).

<sup>41</sup> Bender, *supra* note 18; Brill, *supra* note 6, at 154; Gamso & Mason, *A Hospital for Adolescent Drug Addicts*, 32 PSYCHIAT. QUART. SUPP. 99 (1958).

<sup>42</sup> Isbell, Altschul, Kornetsky, Eisenman, Flanary & Fraser, *Chronic Barbiturate Intoxication: An Experimental Study*, 64 ARCH. NEUROL. PSYCHIAT. 1 (1950).

<sup>43</sup> Belleville & Fraser, *Tolerance to Some Effects of Barbiturates*, 120 J. PHARMACOL. EXP. THER. 467, 474 (1957); Blachly, *supra* note 9, at 894; Cameron, *supra* note 4, at 315.

take them orally, but some heroin and morphine addicts inject them intravenously, and this can cause large abscesses.

Alcoholics Anonymous urged that their members not be given barbiturates as a sedative because too often alcoholics have shifted their dependency to barbiturates.<sup>44</sup> Alcoholics and barbiturate addicts possess marked common characteristics and both differ from narcotic addicts. Narcotic addicts find that opiates reduce primary needs of hunger and sex, whereas barbiturate addicts and alcoholics discover that they are hindered in their ability to suppress behavior developing around both primary and secondary needs.<sup>45</sup>

Barbiturates have not been included under the Harrison Narcotic Act. However, New York State has passed a law which became effective in January, 1966, and which was designed to control the manufacture, sale, distribution, use and possession of barbiturates and amphetamines.<sup>46</sup>

#### *Benzedrine*

Benzedrine (amphetamine sulfate) and dexedrine have addiction liability. Both increase work output and reduce fatigue, and at the same time are exhilarating. Addicts consider benzedrine a desirable stimulant. They often combine dextro-amphetamine and amobarbital in "goof-balls,"<sup>47</sup> although the latter term commonly means barbiturates in general. A small percentage of amphetamine addicts

seem able to restrict drug intake and to function productively (stabilized addicts); but others show progressive deterioration attended at times by periods of hospitalization for toxic psychosis.<sup>48</sup>

Tolerance to the effects of amphetamines does develop. However, tolerance to some of the toxic effects on the CNS does not develop, and a toxic psychosis may occur, the symptoms of which approximate those of schizophrenia. The psychosis usually disappears within a week, if the drug intake is stopped. Withdrawal symptoms from amphetamines have been studied but because they are not major and gross, they may be unnoticed.

#### *Cocaine*

Cocaine is a natural alkaloid obtained from leaves of a tree indigenous to South America and Mexico. Natives have chewed the leaves for centuries and claimed relief from hunger and fatigue. Cocaine is chewed or sucked in the high altitudes and very little or none is consumed at lower altitudes. Although it was discovered earlier, Freud made the first detailed study of the physiological effects of cocaine in 1884.<sup>49</sup>

Cocaine was the first local anesthetic to be discovered and was accepted immediately. All local anesthetics stimulate the CNS, but cocaine is unique in its powerful effect on the cortex. Both addiction and tolerance can result from the continued use of cocaine.<sup>50</sup> Cocaine produces euphoric excitement and often visual hallucinations. The cocaine user experiences feelings of great mental and physical power; often there are paranoid feelings, especially of being threatened or attacked.

<sup>44</sup> NYSWANDER, *op. cit. supra* note 3, at 34.

<sup>45</sup> Wikler, *Recent Progress in Research of the Neurophysiologic Basis of Morphine Addiction*, 105 AMER. J. PSYCHIAT. 329, 331 (1948).

<sup>46</sup> N.Y. PEN. LAW § 1747-b(3).

<sup>47</sup> Davidson, *Confessions of a Goof Ball Addict*, 120 AMER. J. PSYCHIAT. 750, 751 (1964).

<sup>48</sup> Jaffe, *supra* note 36.

<sup>49</sup> *Ibid.*

<sup>50</sup> *Ibid.*

These feelings may excite the cocaine user to retaliation, and even homicidal acts. Newspaper accounts of addicts violently resisting arrest suggest that the person was "on" cocaine. These unpleasant reactions to cocaine are known to addicts, and they often combine cocaine with heroin or a barbiturate to prevent them.

Cocaine may be sniffed in powder form, which looks like and has been called "snow." If cocaine is injected for bigger "kicks" it may cause multiple abscesses. Cocaine, like the amphetamines, may produce toxic symptoms like psychosis. Cocaine poisoning may occur in some who are hypersensitive to it, and the patient may pass quickly from convulsions to coma to death. It is the cocaine user who has been largely responsible for the stereotype of the "depraved dope fiend."

#### *Marihuana*

Marihuana or cannabis is a drug derived from a variety of hemp plants. It has been used since 2700 B.C., and in many countries and cultures, marihuana is as much a custom as our cocktail. Marihuana travels under many names: hashish, ganga, manzoul; in the United States as "tea," "pot," or smoked in cigarette form, as "reefers." Marihuana may be smoked, chewed, sniffed, or ingested.

Controversy over the inclusion of marihuana under the 1937 Marihuana Act<sup>51</sup> centers often about its non-addictiveness. There is no evidence of marihuana inducing either physical dependence or abnormal tolerance, but the danger of psychological dependence remains. The effects of marihuana resemble those of alcohol, and are as numerous and as varied. In-

<sup>51</sup> Marihuana Tax Act, 50 Stat. 551 (1937).

clusion of marihuana under federal control seems justified, in order to control a stimulant, and to avoid contact between the marihuana user and the narcotics peddler. In one study, 32% of the drug addicts admitted to beginning with marihuana.<sup>52</sup> In another study 53% had used marihuana first, some when they were only eleven years old, and by sixteen years of age on the average.<sup>53</sup>

Marihuana seldom is used in solitude as narcotics often are. Some users report sexual stimulation from smoking marihuana. Moreover, marihuana has a certain ritualism to it that may be appealing. Typically, the marihuana smoker inhales noisily, taking air along with the drug. He holds it as long as possible to allow for complete absorption. Given the properly predisposed personality and high enough dosage, symptoms of toxic psychosis may ensue.<sup>54</sup>

#### *Peyote*

Peyote (mescaline) is frequently confused with marihuana.<sup>55</sup> Peyote comes from several species of cactus, and not the hemp variety of plants. The active ingredient is alkaloid mescaline. There is a considerable question as to mescaline's addictive properties, partly because of lack of study. For human consumption a prescription comes under federal control.

Peyote has been used by Indians of Mexico and the Southwest United States since at least the time of Cortez. Eating the fragments of the plant is part of a

<sup>52</sup> Lewis & Osberg, *Treatment of the Narcotic Addict*, 28 AMER. J. ORTHOPSYCHIAT. 730, 731 (1958).

<sup>53</sup> Bender, *supra* note 18, at 189.

<sup>54</sup> Jaffe, *supra* note 36.

<sup>55</sup> For use of peyote as a bona fide religious symbol see 10 CATHOLIC LAW. 337 (1964).

religious ceremony which is sacred and dignified and not orgiastic as often described. However, since the Indians' use of peyote has been proscribed by both church and state, their formulas remain secret.<sup>56</sup>

Mescaline, the active ingredient, administered to normal subjects produces a variety of CNS effects, and particularly, visual hallucinations, brightly colored, and often in geometric patterns. Color and space perceptions often are impaired at the same time. There may be anxiety states. The effects wear off after about twelve hours. In some respects the psychic changes induced by mescaline are similar to those caused by minute doses of LSD, but chemically, mescaline is closer to epinephrine than to LSD.<sup>57</sup>

#### *Lysergic Acid Diethylamide*

LSD is an amine alkaloid whose unusual psychological effects were discovered in 1943. LSD-25 and allied compounds are termed: hallucinogens, because they induce hallucinations; psychotomimetics, because in research they have been helpful in mimicking psychotic symptoms; and dysleptics.<sup>58</sup> The resemblance to schizophrenia of the LSD syndrome is only partial; the LSD psychosis is brief, the hallucinations when they occur tend to be visual and not auditory, and the subject maintains a large amount of insight concerning its etiology. LSD is still an experimental drug and evidence is lacking for it being helpful in psychotherapy.<sup>59</sup>

<sup>56</sup> Jaffe, *supra* note 36.

<sup>57</sup> *Ibid.*

<sup>58</sup> Elkes, *The Dysleptics: Note on a No Man's Land*, 4 COMPREHEN. PSYCHIAT. 195 (1963).

<sup>59</sup> Jarvik, *Drugs Used in the Treatment of Psychiatric Disorders*, in THE PHARMACOLOGICAL BASIS OF THERAPEUTICS 159 (Goodman & Gilman eds. 1965).

Potentially, LSD-25 and similar drugs may assist in the study of the higher processes of the CNS as well as the examination of altered states of consciousness. The reliability of subjects' reports during sessions with LSD-25 has been tested, using a control group who were given a placebo of plain water. Altered physical sensations and impaired concentration and judgment were effects of LSD which were reliably recalled by the experimental subjects.<sup>60</sup>

However, these compounds have entered into the black market with narcotics, and have been associated with a mystique and cult whose membership is drawn from the educated and intelligent, almost the antithesis of the typical narcotic addict in the United States.<sup>61</sup> There is considerable evidence that for some individuals LSD-25 can produce serious psychological effects. A survey of sixty-two principal investigators of LSD indicated four principal groups of effects:

1. immediate or early in drug administration: moderate subjective anxiety, through states of panic, to states of catatonic withdrawal and stupor; violent paranoid reactions at times.
2. delayed reaction: some hours after drug administration and lasting perhaps hours, even weeks, persistent mood changes mostly depressive, or residua of perceptual disturbances; alternatively, there may be mod-

<sup>60</sup> Paul, Langs & Linton, *Individual Differences in the Recall of Drugs Experience*, 140 J. NERV. MENT. DIS. 132 (1965).

<sup>61</sup> Killam, *Psychopharmacological Considerations*, in UTOPIATES: THE USE AND USERS OF LSD-25 (Blum ed. 1964).

erately severe depersonalization, derealization, phobias.

3. most dangerous: the possibility of severe depression or suicide.
4. danger of multihabituation: use of LSD may turn the user to other drugs; there is little evidence for LSD being addictive in the sense of physical dependence, but good evidence that tolerance to LSD-25 is rapidly established and that there may be cross tolerance to LSD-analogues.<sup>62</sup>

Until the susceptibility to adverse effects of LSD and related compounds can be explored, and until the therapeutic value can be evaluated, uncontrolled use in order to provide unusual experiences should be discouraged. These drugs should be restricted to specialists who have experience with them and experimental situations where adequate controls can be effected.

#### Profile of the Narcotic Addict

The patterns of opium use vary so much through the ages, and in different cultures that any psychological delineation must be limited to the narcotic user of the present day and in the United States. Further, most studies have been reported on male subjects while the accounts of drug use indicate that until the twentieth century three times as many women were addicted, whereas current proportions are at least reversed.<sup>63</sup> Finally, large urban areas, particularly the slums of New York, Michigan, Illinois, and California have

<sup>62</sup> Elkes, *supra* note 58, at 196.

<sup>63</sup> See NOYES & KOLB, *MODERN CLINICAL PSYCHIATRY* 475 (1963).

been heavily represented in research with addiction.

The concentration of narcotics addiction in urban areas, particularly those with poor residential conditions, high incidence of crime and delinquency, racial discrimination, and fragmented family background, has contributed to the attraction of a "sociological model" for drug addiction. One authority has stated that the narcotic addict who was a slum-dwelling adolescent used drugs as an outlet for exaggerated rebellion and aggression.<sup>64</sup> Others believe that addiction is closely associated with alienation, rootlessness, institutionalization, and criminality.<sup>65</sup> Further studies agree that addiction in youth can be traced to the "accident" of introduction to narcotics, which is fostered by the availability of both the drugs and adult narcotics users as models, both of which abound in slum living areas.<sup>66</sup>

In a recent article,<sup>67</sup> Rettig and Pasa-manick concluded that followers of the sociological view were inclined not to view the nature of the drug addict differently than other deviant types. They tested 173 male addicts whose average age was thirty, and they confirmed two hypotheses of Monroe and Astin, namely:

<sup>64</sup> Ausubel, *supra* note 21, at 523.

<sup>65</sup> Freedman, Sager, Rabiner & Brotman, *Response of Adult Heroin Addicts to a Total Therapeutic Program*, 33 *AMER. J. ORTHOPSYCHIAT.* 890 (1963).

<sup>66</sup> Cameron, *Addiction—Current Issues*, 120 *AMER. J. PSYCHIAT.* 313, 314 (1963); Gamsco & Mason, *supra* note 41.

<sup>67</sup> Rittig, *Subcultural Identification of Hospitalized Male Drug Addicts: A Further Examination*, 139 *J. NERV. MENT. DIS.* 83 (1964).

- (1) subcultural addicts are addicted longer; and
- (2) are poorer candidates for psychotherapy.<sup>68</sup>

Greater speed of addiction also was found to be a significant correlate of subcultural addiction. But Rettig and Pasamanick noted that subcultural addicts were an average of nineteen years old when first addicted as opposed to twenty-five to twenty-six years of age in non-subcultural addict samples, and they suggested immaturity as the more basic cause for addiction in "slum samples."

Extensive research at the federal hospital in Lexington, Kentucky pointed to "social deviant" as the most distinctive characteristic of narcotic addicts. Hill, Haertzen, and Belleville developed their "Addiction Research Center Inventory" (ARCI) on patients, former addicts, who were inmates of the federal hospital.<sup>69</sup> The ARCI evolved from the Minnesota Multiphasic Personality Inventory (MMPI), with the addition of items from sentence completions, and other personality tests. The psychopathic deviant (PD) scale of the MMPI most clearly differentiated addicts from control subjects.<sup>70</sup> The ARCI authors claimed that "socially deviant" was a fair description of their test findings. Many of their addict subjects were socially "inept" and

"inadequate" rather than aggressive and antisocial as the PD label would suggest.

Knight and Prout worked with seventy-five older addicts (37.2 average age) for an average of six years. Their group manifested personality characteristics of introversion, shyness, and insecurity. They suggested that the addict personality was psychopathic-like; that it showed lack of healthy resources and adequate structure; and that its interests were shallow and its goals immature.<sup>71</sup>

Hill believed that the term "schizoid psychopath" described some narcotic addicts.<sup>72</sup> Bender held that narcotics provided a schizoid blocking out of most of the perceptual field. Bender's adolescent subjects displayed immature and labile emotional reactions and low frustration tolerance; they repressed their troubles and withdrew into fantasies.<sup>73</sup> The earlier research of Zimmering, Toolan, Safrin, and Wortis supported Bender's descriptions.<sup>74</sup> A study of street gangs in New York City revealed that the gangs discouraged use of drugs in many ways, and that typical drug addicts were "loners."<sup>75</sup>

Nyswander saw the addict as a self-made outcast; his inept attempts to solve his problems took him into another world where only his fellow addicts could appreciate them. He believed that it was of

<sup>68</sup> *Id.* at 85.

<sup>69</sup> Hill, Haertzen, Wolbach & Miner, *The Addiction Research Center Inventory*, 4 *PSYCHOPHARMACOLOGIA* 167 (1963).

<sup>70</sup> Hill, *The Social Deviant and Initial Addiction to Narcotics and Alcohol*, 23 *QUART. J. STUD. ALCOHOL* 562, 563 (1962); see Monroe, Miller & Lyle, *The Extension of Psychopathic Deviancy Scales for the Screening of Addict Patients*, 24 *EDUC. PSYCHOL. MEAS.* 47 (1964).

<sup>71</sup> Knight & Prout, *A Study of Results in Hospital Treatment of Drug Addicts*, 108 *AMER. J. PSYCHIAT.* 303-05 (1951).

<sup>72</sup> Hill, *supra* note 70, at 566.

<sup>73</sup> Bender, *Drug Addiction in Adolescence*, 4 *COMPREHEN. PSYCHIAT.* 181, 187 (1963).

<sup>74</sup> Zimmering, Toolan, Safrin & Wortis, *Drug Addiction in Relation to Problems of Adolescence*, 109 *AMER. J. PSYCHIAT.* 272 (1952).

<sup>75</sup> See generally CLOWARD & OHLEN, *DELINQUENCY AND OPPORTUNITY* (1960).

the nature of the drug addicts' problem not to seek or avail themselves of help. Nyswander developed at length the thinking behind the "sub-clinical schizophrenia" classification frequently applied to addicts. The arguments were briefly that the addict:

1. avoided sex (narcotics reduce sexual activity; and the grip of narcotics often lasted through adolescence and the twenties, thus covering most of the active sexual years; did the addict fear sexuality?);
2. avoided aggression (in the same period of life when others developed skills and goals and security, the addict rarely assumed responsibility, belonged to a singularly unskilled group, manifested profound feelings of inadequacy and lack of self-confidence);
3. in attitude toward self-manifested self-preoccupation and self-destruction (masochism) and narcissism (his thoughts, acts, and associations with others usually are meaningless unless those others can help him toward obtaining drugs; absorbed in self-gratification he was infantile in his inability to delay gratification);
4. in relations toward parents had no more or less problems than an average emotionally disturbed patient but so maneuvered that he never surpassed his parents in achievement or purposes (at the conscious level he always considered the father as weak and ineffective, whereas the mother was the object of appreciation, and of sympathy as a victim).

Laskowitz followed fourteen young (fourteen to twenty-one years old) nar-

cotic addicts who had been treated at Riverside Hospital in New York City, for twenty-seven months. Employing the Adlerian framework, he found his subjects to be typically socially deviant, with heightened feelings of inadequacy. They lacked courage and desired to be shielded and pampered. Most of his subjects came from slum areas.<sup>76</sup>

Narcotic addicts often manifest extreme dependency. Bender discovered that her subjects (adolescent boys) often had overprotective, dominating or underdominating parents, and most sustained an emotionally dependent relationship with their mothers.<sup>77</sup> Hirsch viewed addicts as sons who were infantilized by narcissistic mothers who had rejected them.<sup>78</sup> Mason studied sixty-seven patients chosen at random from the hospital population of addicts; in most instances mothers were overpowering, stimulating aggression and sexual drives in children and then denying and punishing them.<sup>79</sup> In Chessick's study of heroin addicts many fantasies centered about the mother, and he warned the therapist of the danger of becoming a mother-like figure to the addict subject.<sup>80</sup> Lewis and Osberg found that their addict subjects were dependent, passive primarily, and lacked assertiveness; forty percent of them had mothers who were

<sup>76</sup> Laskowitz, *Wechsler-Bellevue Performance of Adolescent Heroin Addicts*, 13 J. PSYCHOL. STUD. 49 (1962).

<sup>77</sup> Bender, *supra* note 73, at 186.

<sup>78</sup> Hirsch, *Group Therapy With Parents of Adolescent Drug Addicts*, 35 PSYCHIAT. QUART. 702 (1961).

<sup>79</sup> Mason, *The Mother of the Addict*, 32 PSYCHIAT. QUART. SUPP. 189 (1958).

<sup>80</sup> Chessick, *The "Pharmacogenic Orgasm" in the Drug Addict*, 3 ARCH. GEN. PSYCHIAT. 545, 549-55 (1960).



dominant and indulgent; their families lacked cohesiveness, and their fathers were frequently weak or absent.<sup>81</sup> In Rosenbloom's study of thirty-two Jewish patients, addicts for an average of eleven years, most subjects had had poor relations with their father.<sup>82</sup> Gold said that narcotic addicts came from rejecting environments and families which produced insecurity feelings; they had grown up in the periphery of the social world as isolated, inactive observers.<sup>83</sup> However, Zimmering, Toolan, Safrin, and Wortis did not feel that there was anything destructive about the "close empathetic relationship of mother to addict son."<sup>84</sup>

Rado's views best illustrate the psychoanalytic theory of drug addiction which begins with the recognition of the oral factors in addiction.<sup>85</sup> Older psychoanalytic literature led to two definite conclusions: (1) the erotogenic oral zone was important for the etiology of drug addiction; and (2) the close relationship of homosexuality to drug addiction. For others, the relation of drug addiction to latent homosexuality was a better connection of narcissism with drug addiction.<sup>86</sup> Addiction served to control sadism and

protected against paranoid psychosis; the narcotics addict manifested primitive magical thinking and narcissistic phantasies of omnipotence. Drugs help the addict to deny any loss of primal love and master forever the danger of abandonment by his mother.<sup>87</sup> Silverman and Silverman, in a blind evaluation, discovered a significantly greater number of Rorschach responses with intrauterine implications in heroin addicted subjects.<sup>88</sup> Psychoanalytic literature deals with withdrawal symptoms as satisfying the need for punishing self.

In Cameron's phrase, personality predispositions were the "fertile field" in which the seeds so abundant in slum areas might be nourished.<sup>89</sup> In this vein Laskowitz believed that the neurotic with low ego strength and the psychopath with poorly developed superego were particularly prone to drug addiction, in as much as their thrill-seeking led them into experimentation with drugs and their personality defects would reduce their ability to cope with them.<sup>90</sup>

Descriptions like Laskowitz' raise the question whether personality aberrations underlie all narcotic addiction. Haertzen, Hill and Belleville preferred the term "conduct disorder" for addicts, although their division of addiction categories allowed for a proportion of neurotics and psychotics.<sup>91</sup> Bender thought that the

<sup>81</sup> Lewis & Osberg, *Treatment of the Narcotic Addict*, 28 AMER. J. ORTHOPSYCHIAT. 730, 731-32 (1958).

<sup>82</sup> Rosenbloom, *Notes on Jewish Drug Addicts*, 5 PSYCHOL. REP. 769 (1959).

<sup>83</sup> Gold, *Toward an Understanding of Adolescent Drug Addiction*, 22 FED. PROB. 42 (1957).

<sup>84</sup> Zimmering, Toolan, Safrin & Wortis, *Drug Addiction in Relation to Problems of Adolescence*, 109 AMER. J. PSYCHIAT. 272, 273 (1952).

<sup>85</sup> See Rado, *The Psychoanalysis of Pharmacothymia (Drug Addiction)*, 2 PSYCHOANAL. QUART. 1 (1933).

<sup>86</sup> Rosenfeld, *On Drug Addiction*, 41 INT. J. PSYCHO-ANAL. 467 (1960).

<sup>87</sup> Lehmann, *Phenomenology and Pathology of Addiction*, 4 COMPREHEN. PSYCHIAT. 168 (1963).

<sup>88</sup> Silverman & Silverman, *Womb Fantasies in Heroin Addiction: A Rorschach Study*, 24 J. PROJ. TECH. 52 (1960).

<sup>89</sup> Cameron, *supra* note 66, at 314.

<sup>90</sup> Laskowitz, *supra* note 76.

<sup>91</sup> Haertzen, Hill & Belleville, *Development of the Addiction Research Center Inventory*

label "personality disorders" should be used in place of neurotic or character disorders for adolescent addicts.<sup>92</sup> "Character disorder" and inadequate personalities, and various types of neuroses are most frequently associated with addiction.<sup>93</sup>

Gamso and Mason categorized their adolescent addict subjects as: 65% personality disorders; 6% neurotic; and 25% schizophrenic.<sup>94</sup> Clark found that psychiatric illnesses preceded or accompanied drug addiction in 40% of the cases, and that another 20% of the cases were sociopathic.<sup>95</sup> Nyswander believed the incidence of insanity among addicts was the same as in the general population. Psychotic patients do not become addicted, it seems, and there was no evidence that narcotics themselves led to psychosis.<sup>96</sup> Pfeffer and Ruble could find no sound evidence that habitual use of morphine caused chronic psychosis or any organic type of intellectual deterioration.<sup>97</sup>

Two vocational groups have contributed a large proportion of addicts: the medical profession and musicians. Both differ from the "subcultural" samples observed in metropolitan studies of addiction, and also from the general narcotic addict pro-

file. Modlin and Montes,<sup>98</sup> Winick,<sup>99</sup> and Clark<sup>100</sup> have studied addicts from the health professions who amount to 40% of the population of U.S. Public Health hospitals. Thirty of sixty-five addicts in Menninger Memorial Hospital over a fifteen year period were physicians; twenty-five were studied.<sup>101</sup> They were thirty-eight years old on an average when they became addicted, and had been hospitalized twice previously for addiction before admission to Menninger Memorial Hospital. Twenty-four became addicted on demerol, and one on dilaudid; many had used sedatives, analgesics, ataractic drugs, and alcohol in combination with narcotics. Three main reasons were given for addiction: overwork, chronic fatigue, and physical disease. Experts agreed that three conditions combined in the etiology of their addiction, namely: predisposing personality; availability of the drugs; and circumstances which brought the two reasons together. Estimates of the incidence of addiction among members of the health professions (physicians, nurses, pharmacists) run from 30 to 100 times that in the general population, and this incidence is not peculiar to the United States.<sup>102</sup>

Winick and Nyswander reported their work with jazz musicians, a vocational group consistently identified with narcotic use. The musicians were invited to participate in psychotherapy provided by a

(ARCI): *Selection of Items that are Sensitive to the Effects of Various Drugs*, 4 PSYCHOPHARMACOLOGIA 155 (1963).

<sup>92</sup> Bender, *supra* note 73, at 187.

<sup>93</sup> Cameron, *supra* note 66, at 314.

<sup>94</sup> Gamso & Mason, *A Hospital for Adolescent Drug Addicts*, 32 PSYCHIAT. QUART. SUPP. 99 (1958).

<sup>95</sup> Clark, *The Prognosis in Drug Addiction*, 108 J. MENTAL SCI. 411, 417 (1962).

<sup>96</sup> NYSWANDER, *THE DRUG ADDICT AS A PATIENT* 58, 62 (1958).

<sup>97</sup> Pfeffer & Ruble, *Chronic Psychoses and Addiction to Morphine*, 56 ARCH. NEUROL. PSYCHIAT. 665, 672 (1946).

<sup>98</sup> Modlin, *Narcotics Addiction in Physicians*, 121 AMER. J. PSYCHIAT. 358, 360 (1964).

<sup>99</sup> Winick, *Physician Narcotic Addicts*, in *THE OTHER SIDE: PERSPECTIVES ON DEVIANCE* 261 (Becker ed. 1964).

<sup>100</sup> Clark, *The Prognosis in Drug Addiction*, 108 J. MENTAL SCI. 411 (1962).

<sup>101</sup> Modlin, *supra* note 98, at 358.

<sup>102</sup> *Id.* at 362.

team of experts in work with drug addiction, and all fees were paid by funds raised at the Newport Jazz Festival of 1957. At the same time that fifteen musicians were accepted for the therapy, fifteen other musicians, alike in addiction, race, marital status, age, degree of success in music, and even to playing the same instrument, acted as a control group. The control group was interviewed every three months during the three years the study continued. The authors estimated that 23% of New York jazz musicians used marihuana regularly; 54% used it occasionally; and 16% used heroin regularly.<sup>103</sup>

Comparisons of musician addicts with controls, and with the typical addict, indicated that, like the physicians, the musicians became addicted later in life, after they had begun their careers. They took drugs to help them meet and master the problems of their work, rather than to run away from it. Like physicians, the musicians were higher in intelligence; their average IQ was 115 as opposed to normal range IQ in institutional addict samples, and an average IQ of 113 in private hospital cases.<sup>104</sup> The musicians also reported that their fathers were vigorous, strong, successful men unlike the shadowy, weak figures which people the accounts of family background of many addicts.

### Treatment Procedures

In a condition which has a relapse record as high as 75% no one method can

guarantee successful treatment. Environmental therapy, a drug-free environment such as obtains in hospitals like those in Lexington, Kentucky and Fort Worth, Texas, has been the beginning of whatever success has been attained in treatment of addiction. The Surgeon General of the United States testified for the overwhelming majority of the medical profession when he remarked that treatment of drug addiction must take place in a drug-free environment. The vast majority of addicts cannot be withdrawn from narcotics with any hope for success without institutional treatment. Despite occasional statements to the contrary, compulsory commitment has effected "cures" from addiction.<sup>105</sup> However, long-term commitment does not guarantee "cure" any more than a confinement of shorter duration; the percentage of recidivism is high in all cases.

O'Donnell made a survey<sup>106</sup> of 266 white patients treated at Lexington, Kentucky from May, 1935 to December, 1959. Only Kentucky residents were checked so that the conclusions do not necessarily apply to the many addicts who came from large urban areas. Fifty percent had died, and there was a "suspiciously" high percentage of "non-natural" causes listed on death certificates. Over fifty percent of the living subjects were abstinent from drugs. The relapse records of men were higher than women; three times as many men had been institutionalized again; and four times as many men had shifted to barbiturates or alcohol.

<sup>103</sup> Winick & Nyswander, *Psychotherapy of Successful Musicians Who Are Drug Addicts*, 31 AMER. J. ORTHOPSYCHIAT. 622-27 (1961).

<sup>104</sup> Olson, *MMPI Sex Differences in Narcotic Addicts*, 71 J. GEN. PSYCHOL. 208 (1963).

<sup>105</sup> Brill, *Misapprehensions About Drug Addiction—Some Origins and Repercussions*, 4 COMPREHEN. PSYCHIAT. 150, 156 (1963).

<sup>106</sup> O'Donnell, *A Follow-up of Narcotic Addicts*, 34 AMER. J. ORTHOPSYCHIAT. 948 (1964).

A minority of the living (21) were addicted to narcotics, but an equal number had shifted to barbiturates or alcohol. The percentage of relapsed cases varies with the stringency of the definition of the term "relapsed." If the question is turned around to ask how many had passed some period of complete abstinence from narcotics, O'Donnell's figures read 38% of the men, and 79% of the women.

The desire to be cured of drug addiction is complex, as is all human motivation. Legislated hospitalization takes advantage of the glimmer of right thinking in many addicts, and their awareness that their lives would be better without the drug habit. However, one reason for drug addiction is the lack of constructive, long-term goals. Moreover, some drug addicts seek hospitalization as a means of reversing tolerance and reducing the amount of drugs needed.

Brill believed that age and treatment effects were inversely related, and that addicts, older in age, were easier to treat than the younger addict.<sup>107</sup> There is evidence of some addicts who, upon entering their thirties, voluntarily relinquished the habit, or "matured out."<sup>108</sup> Such "cures" have been explained in terms of late maturing, or increased insight, or an adaptation to the problems which needed to be met and a diminishing need for the "crutch" provided by drugs.

To the extent that the addict is viewed as neurotic or psychotic, psychotherapy would be demanded. Psychological de-

pendence, as distinct from physical dependence in drug addiction, would require psychotherapy as an adjunct method, if not the main consideration. Monroe and Hill developed an inventory to predict acceptability for psychotherapy in institutionalized narcotic addicts.<sup>109</sup> Nyswander, Winick, Bernstein, Brill and Kauffer offered 70 addicts free therapy; 47 came for the intake interview; 35 of these actually effected an initial contact; 13 remained for the whole year; of these, 10 ceased to use drugs.<sup>110</sup> The addict-patients often came because of other life problems, and, as they worked through these addicitional problems, drugs became less important for reducing anxiety.

Individual psychotherapy runs a risk in that the addict may view the therapist as a mother-like figure whom he expects to satisfy every need. Blachly, Pepper, Scott, and Baganz reported some limited success with group therapy, to which addicts in a hospital were invited but not required to attend.<sup>111</sup> Other authorities' experiences with group therapy were similar but they found that hospital patients often attended only when they felt like it, and disrupted the progress of others more seriously involved. The therapists, therefore, were required to work out a system which required the patients to stay in the sessions once they decided to attend.<sup>112</sup>

<sup>109</sup> Monroe & Hill, *The Hill-Monroe Inventory for Predicting Acceptability for Psychotherapy in the Institutionalized Narcotic Addict*, 14 J. CLINICAL PSYCHOLOGY 31 (1958).

<sup>110</sup> Nyswander, Winick, Bernstein, Brill & Kauffer, *Treatment of the Narcotic Addict*, 28 AMER. J. ORTHOPSYCHIAT. 714, 727 (1958).

<sup>111</sup> Blachly, Pepper, Scott & Baganz, *Group Therapy and Hospitalization of Narcotic Addicts*, 5 ARCH. GEN. PSYCHIAT. 393-96 (1961).

<sup>112</sup> Brett & Villencuve, *Evolution of Group*

<sup>107</sup> Brill, *supra* note 105.

<sup>108</sup> Winick, *Maturing Out of Narcotic Addiction*, 14 BULL. NARCOT. 1 (1962).

Sabath considered the major problem in treating addicts to be devising techniques for promoting a lasting relationship; outpatient settings and traditional counseling techniques were unsuitable for addicts because they failed to maintain continuity. Sabath believed that treatment of addicts should reverse the procedure of working with the neurotic, namely, addicts should be seen in group sessions first, and then switched to individual therapy. Therapy should discourage too great openness or too destructive candor at the beginning. Addicts have realized that many find their ways interesting and have tended to verbalize and exaggerate. Moreover, many have interpreted therapy as being accomplished by mere thought transmission. Group therapy was advantageous for addicts because having many therapists visible and available reduced the possibility of the addict withdrawing because of negativism toward one therapist; and addicts more than neurotics need friendly authority figures, for they can recall few in their past. The major root of the addict's compulsive negativism was his relationship with his mother; withdrawal from relationships was the basic defense of the addict; and awareness of the desire for treatment was one factor which might lead the addict to absent himself.<sup>113</sup>

Ludwig, Lyle, and Miller experimented with group hypnotherapy using twenty-two long-term addict patients at Lexington, Kentucky. Group hypnosis, in Lud-

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*Therapy Policies With Hospitalized Drug Addicts in the Narcotic Unit at Central Islip State Hospital*, 1963 *PSYCHIAT. QUART.* 666, 667.

<sup>113</sup> See Sabath, *The Treatment of Hard-Core Voluntary Drug Addict Patients*, 14 *INT. J. GROUP PSYCHO.* 307 (1964).

wig's hypothesis, had advantages with addicts, for example: it provided a structure for group sessions; it made possible the coverage of a wide range of topics; and it extended the duration of the therapeutic sessions beyond the ordinary limits through posthypnotic suggestions. No "cures" could be claimed because most of the subjects were long-term patients, but clinical evaluations of patients in the group hypnotherapy sessions produced the familiar ratio of one-third marked improvement, one-third moderate, and one-third no improvement.<sup>114</sup>

Treatment on the largest scale has been provided through the federal hospital established in 1935 at Lexington, Kentucky. At Lexington, federal prisoner-addicts are treated, as are those who voluntarily request treatment. The federal hospital has a daily census of 1000 cases, 20% of whom are women. In addition to the treatment facilities, a research center at Lexington has produced most of the solid psychological evidence on addiction and drug users.

The federal hospital at Fort Worth, Texas was established in 1938, as an addition to the facilities at Lexington. But four years later, psychotic patients were admitted along with the drug addicts, and now psychotic patients considerably outnumber the addicts.

New York City has the most serious addiction problem in the United States. In 1952, Riverside Hospital was given over to young addicts. In addition to the 140 bed capacity for young patients, Riverside

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<sup>114</sup> Ludwig, Lyle & Miller, *Group Hypnotherapy Techniques With Group Addicts*, 12 *INT. J. CLIN. EXP. HYPN.* 53 (1964).

Hospital had its own psychology department with seven full-time staff members, as well as thirteen psychiatrists, and conducted a school for the young people. These facilities were closed when New York State took over long-term treatment of addicts in 1963, and New York City was left to provide only detoxification for addicts. In all these facilities, New York, Lexington, and Fort Worth, psychotherapeutic treatment is provided. Many other agencies assist only with detoxifying, and then turn the addict back to his old environment.

Detroit mobilized community resources in 1951 to meet the sudden upsurge in narcotic use among late teen-age groups. The Committee for Rehabilitation of Narcotic Addicts enlisted social, legal, religious, judicial, economic, educational and medical forces along with law enforcement, and integrated them to meet the problems of narcotic addiction. They guaranteed secrecy to all who would voluntarily seek help. In three years time, 510 cases were processed.

As a first step, all who contacted the clinic underwent physical withdrawal from drugs. Then psychotherapeutic facilities were provided. Only 34 patients, 6.7% of the total cases, were motivated to undergo voluntary treatment. Twenty of the 34 patients were "cured" by the physical withdrawal program. Hence, 14 patients, or 2.7%, undertook psychotherapy. In addition, patients were processed for admission to Lexington, Kentucky. Eighty-seven of the 101 who applied were eligible; 52 reported to Lexington; 30 of these left against medical advice shortly after admission; 10 completed the treatment at Lexington in a minimal way.

A study of the Detroit program concluded that treatment of the addicted person on a purely voluntary basis in an outpatient facility, initially, at least, holds little promise for success. Nor does voluntary hospitalization provide the answer. The study recommended a three-fold community program:

1. the subjection of addicts to court commitment procedures;
2. rehabilitation facilities close to the addiction concentration;
3. compulsory contact following release to some agencies, where psychotherapy must be provided.<sup>115</sup>

Agencies like Big Brother and Alcoholics Anonymous were recommended by the study as a necessary third step after release from commitment. Such half-way houses, where addicts can live and continue therapy, return to school, or begin work at some self-supporting trade have begun to take hold in the United States. Perhaps the best known of these is Synanon, which got its name from the mispronunciation by an addict of "seminar," the group session in which addicts are encouraged to confront their "character defects, and tear away all remnants of self-delusion." Synanon began in California in 1959 and has expanded into six houses around the United States serving about 500 addicts. The organization has been conducted by reformed alcoholics and addicts, who provide assistance to each other after the manner of Alcoholics Anonymous. The addicts work in the Synanon houses or in small businesses

<sup>115</sup> Raskin, Petty & Warren, *A Suggested Approach to the Problem of Narcotic Addiction*, 113 AMER. J. PSYCHIAT. 1089 (1957).

operated by the organization while they solve their problems through the seminars. Because medical facilities have not been a part of Synanon, they have been criticized as "unprofessional"; but their answer has been to point to superior success in "curing" addiction.<sup>116</sup>

In the New York City area Daytop Lodge, a twenty room mansion for twenty-five addicts who have been put on probation by the courts, has been awarded a five-year study grant by the National Institute of Mental Health. Control groups of addicts will be set up for comparison purposes, and psychiatric services are being provided. In addition, the director has received training with Synanon in California and will organize Synanon group sessions at Daytop Lodge. Subjects will be males between sixteen and forty-five years old. One year of residence and treatment is considered the minimum, but depending upon his progress, a subject may begin to work outside while continuing to reside in Daytop Lodge.

A persistent topic of controversy in popular literature on drug addiction has been the supposed superiority of the British "system." In reality, there is no "system" in Britain, nor published data which describes in quantitatively specific medical terms British practices or results. The procedures in Britain under the Dangerous Drug Act<sup>117</sup> are quite similar to those in the United States under the Harrison Narcotic Act. The differences which have existed trace not so much to the process but to the emphasis, and differences in

enforcement. No evidence exists that British rules for addicts have led to a low incidence of drug addiction. Rather, there are indications that the low incidence of addicts led to the present method of handling addiction.<sup>118</sup>

The Federal Bureau of Investigation, operating under the Harrison Narcotic Act, controlled the sale and use of drugs in the United States, and was given wide powers of enforcement by the courts. Doctors in the United States for many years feared to become involved with the law in accepting drug addicts as patients. It is no offense against the law in Great Britain to be addicted to drugs; it may or may not be an offense against the law to be in possession of drugs, depending upon the type of drug, and the situation to some extent. The legal onus is on the possessor to show that his ownership came about by legal means. Doctors are invited to make known to the Home Office any cases of addiction that they encounter, although they are not obliged to do so. There is no official "register" of addicts. There is no official allocation of drugs to the addict. There are known addicts, but this confers neither privilege nor disability. No law in Britain can be enforced to compel a drug addict to enter the hospital for treatment of his condition, provided that there is no psychiatric abnormality. Responsibility for the treatment and management of drug addicts has remained entirely in the hands of the medical profession. Practitioners must obtain the opinion of another doctor before prescribing a dangerous drug for a lengthy period of

<sup>116</sup> See generally YABLONSKY, *THE TUNNEL BACK: SYNANON* (1965).

<sup>117</sup> 14 & 15 Geo. 6, c. 48, at 309 (1951).

<sup>118</sup> Brill, *supra* note 105, at 159.

time.<sup>119</sup>

The Pharmacy and Poisons Act<sup>120</sup> in Great Britain was concerned with the registration and regulation of pharmacists who were authorized to sell poisons and other drugs not coming under the Dangerous Drugs Act. Sale of these drugs is checked by the police four times a year, or every six months at a minimum. The addictive drugs of preference in England are morphine, pethidine, heroin, and cocaine. Barbiturates and amphetamines are much less restricted in England. By law they may be sold only under prescription, but they may be given away and no record need be kept of the transaction. Enforcement of the Pharmacy and Poisons Act is effected by the Pharmaceutical Society, and not by the police. Members of the Society visit retail stores incognito and test the probity of the pharmacist; offenses are prosecuted in the courts by the Pharmaceutical Society.

A committee report by eight eminent physicians in 1961 indicated that the incidence of drug addiction was still very small and illicit traffic in narcotics negligible. The committee thought that there was no need for special institutions for addicts.<sup>121</sup> But there has been a notable increase in the use of narcotics among young people in their teens and twenties, and the use of heroin is on the rise. The sales of barbiturates have been increasing every year and have doubled between 1951 and 1959.<sup>122</sup> Known addicts have

increased from 225 in 1950 to 440 in 1960; prosecutions in London for offenses against the Dangerous Drugs Act have increased from 75 in 1953 to 558 in 1962. Treatment of drug addiction in Great Britain, as in other countries, has been abysmally unsuccessful.<sup>123</sup>

### Conclusion

Nyswander said that only within the last decade has addiction been defined in terms of clinical phenomena which can be subjected to scientific methodology as opposed to intuitional generalizing.<sup>124</sup> Some deficiencies in drug addiction research have been evident in the review of the literature, and hence, research limitations have merely been listed:

1. small groups: the literature contained some studies based on four or twelve subjects, but the research at Lexington, Kentucky and at New York and more recent works have employed larger samples, and the trend is toward a firmer base of evidence for conclusions.

2. lack of controls, and the speciality of control groups: all too often studies have been conducted on hospital inmates, who were once addicts, on prisoners, and on some abnormal groups like schizophrenics.

3. pervasive low socioeconomic level effects: addicts from slum areas of large urban centers have dominated the research on drug addiction in the United States; authors recognize that a contaminating influence is possibly present.

(Continued on page 172)

<sup>119</sup> See Clark, *Drug Addiction in Great Britain Today With Special Reference to Prognosis*, 4 COMPREHEN. PSYCHIAT. 214, 215-16 (1963).

<sup>120</sup> 1 & 2 Eliz. 2, c. 19, at 155 (1953).

<sup>121</sup> Clark, *supra* note 119, at 215.

<sup>122</sup> Partridge, *Drug Addiction in Great Britain*, 4 COMPREHEN. PSYCHIAT. 208, 211 (1963).

<sup>123</sup> See Clark, *supra* note 119, at 222-24.

<sup>124</sup> NYSWANDER, *op. cit. supra* note 96, at 39.



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*(Continued)*

4. sex: most studies have employed male subjects, although older accounts of drug addiction indicate greater incidence among women and current studies indicate sex differences in relapse behavior.

5. age differences: adolescents and men in their twenties and thirties have been listed as addicts despite the recognized phenomenon of "maturing out," and a possible distinction in the use of drugs by adolescents as a fad or symptom of rebellion.

6. different drugs and their different effects: for example, heroin has a derealizing effect as opposed to the stimulating and aggressive reactions to cocaine.

7. "abysmal" failure of treatment procedures and notorious relapse records: there is a sparsity of volunteers even for free psychotherapy.

Some clues for the psychologist working with the young narcotic user may be gleaned from this review of research. First, use of narcotics, especially marijuana, may be symptomatic of the adolescent's rebellion and search for identity,

in which case the psychologist should attempt to promote growth, and divert them from dangerous involvements. Secondly, use of drugs may point to dependency, immaturity, and poor sex identification. Thirdly, addicts' lack of constructive goals and vocational skills may suggest urgent need of vocational counseling and continual support during training. Finally, the psychologist should be wary of the manipulations and subterfuges of the narcotic addict, his proclivity to uncover too soon and his efforts to intellectualize, and help him assess the motivation behind his choice of narcotics, instead of, for example, alcohol.

In conclusion, the increased amount of study and improved quality of research in drug addiction in the last decade point hopefully to a discovery of solutions to the many unanswered questions about drugs, addicts, and addiction. Special attention should be directed to the patterns and factors associated with recovery and relapse. Increasing success in the treatment of mental illness should assist in reducing the number of persons susceptible to addictive drugs.