ice of these three qualities
ction is still a matter of
ice in addiction is obscure
lerance, however, has been
orphine-like drugs. It is
the qualities of the addict-
nce has been regarded by
y pharmacologists, as the
hing characteristic of an
ons, particularly psychia-
ndence or habituation as
diction. Some have gone
wal symptoms are psychic
n. A view intermediate
is probably correct. Both
ndence are important in
er [5] has shown that physi-
and methadon develops
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ysical dependence occurs
's. Wikler's observation
sical dependence is a real
sychic in origin. On the
ice does not explain why
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criteria of addiction: tol-
on is developed; physical
as consistently as with
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biturates alone or with
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12 grains (0.78 Gm.)
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few pure cocaine addicts in the United States. Ordinarily the drug is used in conjunction with some physiologic antidote, particularly morphine.

Marihuana causes a mild form of intoxication which is popular among maladjusted adolescents and others, including musicians. Neither tolerance nor physical dependence develops with this drug.[6] The greatest danger of smoking marihuana appears to be possible precipitation of disturbed behavior in persons with incipient psychoses.[6c]

With alcohol, tolerance and habituation definitely develop. It is possible that delirium tremens, alcoholic "epilepsy" and other phenomena sometimes attributed to toxic effects of alcohol represent abstinence syndromes based on physical dependence on this drug.

ETIOLOGIC ASPECTS

Drug addiction should be regarded as a symptom of a basic underlying personality maladjustment. These personality disorders run the gamut of the standard psychiatric nomenclature from the simple anxiety states to the major psychoses. A vast majority of narcotic drug addict patients are fundamentally emotionally immature childlike persons, who have never made a proper adaptation to the problems of living. Many of our patients are former alcoholic addicts who found that narcotic drugs relieved their inner emotional tension as effectively as alcohol but, at the same time, did not produce obvious signs of intoxication. After changing from alcohol to narcotic drugs, alcoholic addicts may be able, for a period of time, to deceive themselves and their associates into believing that they are making a satisfactory adjustment.

The kinds of personality disorders which underlie drug addiction have been well described by Kolb [7] and by Felix,[8] who lists four general personality types.

The first group is made up of normal persons accidentally addicted. It consists of patients who in the course of an illness have received drugs over an extended period of time and, following relief of their ailments, have continued the use of drugs. These persons are frequently termed "accidental" or "medical" addicts. Such persons are regarded by some authors as constituting a special group of addicts who are different from those persons who began the use of drugs as a result of association with persons who were already addicted. In our experience, all "medical" addicts have some fundamental emotional problem which causes them to continue the use of drugs beyond the period of medical need. There is, then, no basic difference between "medical" and "nonmedical" addicts except in the mode of the original contact with drugs. In persons with stable personalities, social pressure, conscience and a well balanced emotional makeup negate the pleasure produced by drugs sufficiently to prevent their continued use.

The second group consists of persons with all kind-

The third and largest group consists of psychopathic persons, who ordinarily become addicted through contact and association with persons already addicted. They are generally emotionally undeveloped aggressive hostile persons who take drugs merely for pleasure arising from the unconscious relief of inner tension, as shown by this statement of an addict:

> I was always getting into trouble before I got on drugs—never could seem to get comfortable; I had to go somewhere and do something all the time. I was always in trouble with the law. Some fellows told me about drugs and how good they made you feel, and I tried them. From then on I was content as long as I had my drugs—I didn't care to do anything but to sit around, talk to my friends occasionally, listen to the radio, and only be concerned with the problem of getting money for drugs. This I usually did by picking pockets or other such petty stuff.

The fourth and smallest group is characterized by drug addiction with psychosis. The persons in this group, many of whom have borderline mental illness and sometimes frank mental illness, are seemingly able to make a better adjustment while taking drugs. Sometimes it is difficult to establish the diagnosis and not until drugs are withheld does the psychosis become apparent.

There is a category of patients not included in the aforementioned groups. Kolb [7] originally listed these as patients with psychopathic diathesis. While it is true that some of these exhibit much of the overt behavior pattern of psychopathic persons, when studied carefully they usually fall into a milder behavior or character disorder group, which has characteristics of both the psychoneurotic and the psychopathic groups. Included are persons with severe dependency problems, withdrawn schizoid types, emotionally immature adults, as well as those suffering with the milder degrees of maladjustment and inadaptiveness to the complications of living. Felix [8a] stated that most of the persons falling into this group were making a marginal adjustment to life before becoming acquainted with narcotics. After their first few experiences with narcotics they felt an exhilaration and a sense of relief comparable to the solution of a difficult problem or the shaking off of a heavy responsibility. Many of them also felt an increase in efficiency which, in some cases, appeared to have been actual improvement.

In general, persons who never have been able to make a satisfactory adjustment to life, whose adaptive patterns of behavior have been inadequate, frequently find in morphine, much as the tired business man finds in the preprandial cocktail, a means of return to "normal." This is a false situation which may be recognized by the tired business man but is not recognized by the drug addict. Our studies indicate that patients who have made a marginal degree of emotional adjustment to life, and then have begun to use drugs, lose some

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TABLE 1.—*Simple Cl*
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Mild (+)
Yawning
Lacrimation
Rhinorrhea
Perspiration
Pronounced (+++)
Insomnia
Restlessness
Hyperpnea
Elevation of blood pres

signs increase in int
hours of abstinence
At this time, dilat
waves of gooseflesh
carefully in order to

About thirty-six h
lable twitching of th
term "kicking the h
the legs, abdomen
become prominent; v
seen. Rectal tempe
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The second group consists of persons with all kinds of psychoneurotic disorders who, as Felix [8a] said, take drugs to relieve whatever symptoms they may have. The manifestation of the neurosis may be anxiety, an obsession or compulsion or any of the great group of psychosomatic disorders.

6. (*a*) Wallace, G. B.: The Marihuana Problem in the City of New York: Sociological, Medical, Psychological and Pharmacological Studies, Lancaster, Pa., Jacques Cattell Press, 1945. (*b*) Reichard, J. D.: Some Myths About Marihuana, Federal Probation, **10**: 15 (Dec.) 1946. (*c*) Williams, E. G.; Himmelsbach, C. K.; Wikler, A.; Ruble, D. C., and Lloyd, B. J.: Studies on Marihuana and Pyrahexyl Compound, Pub. Health Rep. **61**: 1059 (July 19) 1946.

7. Kolb, L.: Types and Characteristics of Drug Addicts, Ment. Hyg. **9**: 300 (April) 1925.

8. (*a*) Felix, R. H.: Some Comments on the Psychopathology of Drug Addiction, Ment. Hyg. **23**: 567 (Oct.) 1939; (*b*) An Appraisal of the Personality Types of the Addict, Am. J. Psychiat. **100**: 462 (Jan.) 1944.

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DIAGNOSIS OF OPIATE ADDICTION

The diagnosis of addiction is usually made by the patient's statement that he is addicted to and needs drugs. At times, however, addicts attempt to conceal their addiction and the diagnosis may be difficult. There are no pathognomonic physical signs of addiction, but emaciation, needlemarks and abscess scars are suggestive. In some instances, none of these signs may be present. Miosis is not a reliable sign, as partial tolerance to the pupillary constriction caused by morphine

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If morphine is abruptly with
has been receiving as much
0.39 Gm.) daily for a perio
few signs are seen in the firs
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tossing sleep which lasts seve
hours after the last dose of
rhea, sweating and lacrimatio

TABLE 1.—*Simple Clinical Sys*
of Abstinence

Mild (+)	
Yawning	G
Lacrimation	D
Rhinorrhea	A
Perspiration	M
Pronounced (+++)	
Insomnia	E
Restlessness	D
Hyperpnea	W
Elevation of blood pressure	(

signs increase in intensity d
hours of abstinence; thereaf
At this time, dilatation of
waves of gooseflesh appear.
carefully in order to detect th

About thirty-six hours aft
lable twitching of the muscle
term "kicking the habit").
the legs, abdomen and back
become prominent; vomiting
seen. Rectal temperature ri
respiratory rate rises to 25
blood pressure is usually e
mercury; caloric intake is sh
averages 5 or 6 pounds (2.3
acute signs and symptoms re
hours after the last dose
remain at a peak until seven
They then gradually subside
five to ten days. Insomnia
body temperature and the
detected for as long as three
drawal. A simple clinical me
sity of abstinence is shown i

9. (*a*) Himmelsbach and Small,[4] C. K.: Clinical Studies of Drug Ad
the Withdrawal Treatments with M
Symptoms, Supplement 128 to the Pu
Treasury Department, Public Health
bach, C. K.: Studies of Certain Addic
morphine ("Paramorphan"), (b) Dil
phone"), (c) Dihydrodesoxycodeine-D
dihydromorphinone ("Metopon"), J.
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