

Lay Supplement No. 1

THE PROBLEMS OF
ALCOHOL

Prepared and issued by the
QUARTERLY JOURNAL OF STUDIES ON ALCOHOL

List of Lay Supplements Published and in Preparation

Published

1. The Problems of Alcohol
2. The Nature of Alcoholic Beverages and the Extent of their Use
3. Alcohol and Industrial Efficiency
4. Facts on Delirium Tremens
5. Alcohol, Heredity and Germ Damage
6. Alcohol and Length of Life
7. What Happens to Alcohol in the Body
8. Alcoholic Beverages as a Food and their Relation to Nutrition
9. Facts on Cirrhosis of the Liver
10. The Drinker and the Drunkard
11. How Alcohol Affects Psychological Behavior
12. The Rehabilitation of Inebriates

In Preparation [Titles tentative]

13. How Alcoholic Beverages Affect the Body
14. Government and the Alcohol Problem

Orders should be addressed to:

QUARTERLY JOURNAL OF STUDIES ON ALCOHOL
Editorial Office: Laboratory of Applied Physiology,
Yale University

52 Hillhouse Avenue, New Haven, Conn.

The Lay Supplements range in length from 12 to 24 pages. All except No. 1 contain, when available, a suitable list of selected reading for those who are interested in studying the subject beyond the scope of the Supplements.

Prices: 10 cents each; \$6 per hundred of each Lay Supplement;
\$1 per set of 14 Lay Supplements.

(Subscribers to the full set of 14 Lay Supplements receive each additional Supplement when it is published)

Copyright Dec. 1941 by JOURNAL OF STUDIES ON ALCOHOL, INC., Publishers
Second Edition, Jan. 1945, Reprinted March 1946, Feb. 1947, June 1948, Oct. 1948,
Dec. 1950, Feb. 1952, Sept. 1952

Printed in the United States of America

THE PROBLEMS OF ALCOHOL

ANY question to which there is no satisfactory answer is a problem. An unanswered question which concerns a large number of people, and which touches them seriously and in many ways, is a great problem. Why people drink alcoholic beverages; why some drink to excess; what happens to their nervous system when they drink much, and what happens when they drink only small amounts; what is moderation and what is excess; how inebriety may be prevented; how it may be cured—all are questions which concern every person, either directly as they affect his own conduct and health, or indirectly as they affect the conduct and health of a relative, a friend, an employee, or the community as a whole.

If one knew the best answers to these questions that science can now give, would it help him to improve his own life and that of his community? Many people do not know these answers. Many give answers which science has shown to be wrong; and error is often more harmful than ignorance.

The purpose of this booklet, the first in a series, is to acquaint the laymen with the kind of questions that make up the alcohol problem. No answers to these questions will be attempted here; they will be left for later booklets. The reason for defining only questions here without giving the answers is that in order to appreciate the meaning of any part of the problem of alcohol, all the parts that make up the whole problem must first be seen in relation to one another. It is only in this way that a full and unbiased view of any problem can be obtained. In short, this booklet is a guide to the other booklets that will be published in this series of Lay Supplements. It presents, in relation to one another, various questions which will be dealt with individually in the booklets and to which the answers, as far as science has supplied them, will be given.

This may be said about our subject before going into questions or answers: the problem of alcohol is an important one with which every thinking citizen should be acquainted. The progress in solving many scientific problems depends on the attitude of the citizen. The attitude of the citizen, in its turn, depends upon how much information he receives and how sound this information is. The series of Lay Supplements, to

follow the present one, has as its only aim the presentation of scientific facts relating to the problems of alcohol. Full information will be given as to how far science has progressed in this field and how much remains to be known. With this information the citizen is in a position to judge for himself whether or not he is dealing with a great problem. This is particularly important as science will be able to give direction only by supplying facts; it is the citizen who must finally solve the problem by applying the facts.

TO BEGIN WITH

To begin with, most of us can pick from among our friends or acquaintances two men who have grown up in the same environment, were equally pampered by their mothers, later got some hard kicks from life, were not able to live up to their ambitions and had to marry the "next best" girl, but under these conditions acted very differently. One of these men became a heavy drinker and eventually became so enslaved by alcohol that he could not stop, even after he had lost his job, his savings and his family, while the other one faced the issues of life squarely without the prop of intoxication and drank in moderation without impairing his health, and without hardship to his family or danger to his job.

Why one and not the other of these men who had the same kind of experience became a heavy drinker is a puzzle to which we should all like to have an answer. This *why* is the beginning and end of all problems of alcohol. This is *the problem of inebriety and alcohol addiction*.

If there were a fully satisfactory answer to this question, in all likelihood alcohol addiction could be cured and, perhaps in many instances, even prevented. This in itself does not tell us that it is an important question, for if there were only a few people who become alcohol addicts, then it would be a problem only for those few but not for that mass of all of us that we call society. We said that answers will not be attempted in this booklet, but we cannot refrain from saying that, although the number of alcohol addicts and abnormal drinkers is small in comparison to the vastly greater number of citizens who drink in moderation, nevertheless the number is large enough to be a serious problem of society. In Lay Supplement No. 10, *The Drinker and the Drunkard*, material will be presented which will indicate how frequent excessive drinking is; in another Supplement, No. 2, *The Nature of Alcoholic Beverages and the*

Extent of their Use, the amounts and kinds of alcoholic beverages consumed will be cited.

SOME WHYS OF ALCOHOL ADDICTION

If one goes on speculating why this one man—let us call him Bill—became an alcoholic and the other man not, more and more “whys” and “hows” will keep cropping up.

One of Bill’s friends may recall, as many of us may, having seen four men drinking the same number of highballs—far too many for any standard of moderation—and each behaving differently. The first man seems entirely unaffected; the second weeps bitterly over the misery of this world; the third sings merrily and laughs uproariously at his own weak jokes; and the fourth becomes sick. Bill’s friend suggests that the way a fellow “holds his liquor” may have at least something to do with whether or not he becomes an addict. “The way one holds his liquor” is called, in scientific writings, “alcohol tolerance.” Our friend may have hit on at least a partial explanation of some features of addiction. But there is one serious disadvantage to this explanation; it merely tries to explain something that is unknown with something else that is unknown. To have sound knowledge we must know why one man can “tolerate” more alcohol than another one. This we may call *the problem of alcohol tolerance*. (How much or how little is known about this will be discussed in several Supplements.) If the answer to this question helps to understand the “why” of alcohol addiction, it is evidently an important consideration.

Now, someone might suggest that Bill turned to alcohol because he just could not take the disappointments that life dealt out to him; that perhaps he had some “kinks in his make-up” of which even his friends did not know. These “kinks,” these peculiarities, are referred to as traits of personality, and many students of addiction have pondered over the part they may play in alcohol addiction. Here we have *the problem of personality and alcohol*. And from this problem another question arises: If one knew what kind of personality easily succumbs to alcohol, could mental hygiene be used in the prevention of inebriety?

The idea that personality may be a factor in addiction leads immediately to another question. Might it not be that the “kinks” which make an addict out of a man are inherited? Is it possible that addiction itself

is inherited? These are serious questions, for if it is heredity that makes the addict, we might try to treat the children of families having such hereditary traits so that they will not be exposed to alcohol. On the other hand, the idea of heredity means to many of us that it is something unavoidable, something we cannot fight against and which might defeat all of our efforts at prevention and cure. Let us say right now that the inheritance of addiction itself has been disproved. On the other hand, it must be considered that children from families in which nervous and mental disorders and peculiarities of personality are frequent may be more liable to become addicts than others. This we shall call *the problem of heredity and inebriety*; it will be discussed in Supplement No. 5, *Alcohol, Heredity, and Germ Damage*.

Bill's friends continue their speculations as to his unfortunate state and they raise the question: Is it not possible that a fellow begins drinking too much just out of recklessness and that slowly his "nerves," or some other part of his body, get so accustomed to alcohol that they change in certain ways and then actually *need* alcohol? This question has also been asked by many physicians and they refer to it as *the problem of habituation*. But, if we should attempt to explain addiction as due to habituation, we would have to know whether it really occurs and how the body becomes dependent upon alcohol.

All the questions asked so far have placed the blame for inebriety either on the body (tolerance, habituation), or on our forefathers (heredity), or vaguely on the person himself (personality). But some people may feel that these questions are a convenient means of evading responsibility and they may ask: Are we not all responsible, to some extent, for the inebriate? Is it perhaps our indifference, or perhaps even the tolerance and slight amusement with which we look at drunkenness, that fosters addiction? Do the strains of our mode of life, our traditional customs and habits, lead to inebriety? Do certain occupations, certain situations, make for heavy drinking? All these questions mean that perhaps some of the responsibility may be placed at the door of society. This is known as *the problem of social factors in inebriety*.

The thought about Bill's plight, however, leads his friends a little further. They ask whether everyone who drinks excessively is really enslaved by alcohol, is really an addict, a compulsive drinker who cannot get along without it. They all agree that this is not so; that they know

many people who drink huge quantities of alcohol but who are not dependent upon it, who can give it up, but who do not, simply because there seems to be no reason for them to do so. They do not get drunk, they do not neglect their duties, and they do not make anyone unhappy with their drinking. But does the fact that they are not dependent upon alcohol prove that the large quantities they drink, day in and day out, do not injure their health? Might not some disease result directly from so much drinking, even delirium tremens; and might not the resistance of the body to infection be lowered? Is not this heavy drinking, which is not addiction, the cause of many troubles of which one does not think in connection with alcohol? If this were so, the problem of alcohol might be much greater than the one suggested by alcohol addiction, especially since there are many more heavy drinkers or abnormal drinkers than true addicts. Because of these possibilities we have been speaking of the problem of inebriety rather than the problem of addiction. Alcohol addiction is only a special case of inebriety.

FROM WHY TO HOW

THESE questions point to a serious problem and they indicate that something should be done about the prevention of inebriety and the cure of addiction even before the answers to the questions, which have been discussed, have been fully obtained. How to accomplish this without that full knowledge which would give the best results faces us with *the problem of prevention and cure*. When we speculate about ways and means we come to further problems which derive directly from these. It has been suggested that people could be educated to moderation and even to abstinence. But how does one accomplish this? This is *the problem of alcohol education*, which requires serious thought and trials. Education has been tried, but the question is, Has it been done in the best way?

Legislative measures of many kinds have been and are still being used in the attempt to prevent inebriety. Many questions arise here. Which of the legislative measures seem to have proved best? Are there new and untried ways? This *problem of control by law* is one of the *administrative problems of alcohol*. Another legislative problem is that of *the care of alcoholics*, the policy which a state, county or municipality shall adopt in looking after alcoholics. But far deeper than the problem of care is that of treatment and possible cure; and this can advance only as science

answers fully the questions which have been raised here concerning addiction and abnormal drinking.

All the questions we have asked concern heavy drinking. But can we rightly assume that moderate drinking offers no problems? In a scientific inquiry, there is no limit to the scope of the questions asked; they may be as fundamental as that which seeks to know why man drinks alcohol at all, even in moderation. It would seem that this apparently simple question must be asked before attempting to answer the question, why men become abnormal drinkers. And so we must acknowledge *the problem of moderate drinking*. But we may also turn the whole question around in a way that is rarely done and ask whether the truly moderate drinker may not derive some benefits from his drinking. We may ask the doctor whether he does or does not feel that alcohol may be, for some patients, of medicinal value; and we can compare his knowledge, gathered by observation, with the facts gained in the laboratory. In all questions it faces, true science has no likes or dislikes, it has no prejudices, but seeks only facts on which knowledge must be founded. Knowledge has a sound foundation only when all the facts are sought and discovered.

QUESTIONS ABOUT ALCOHOL AND THE HUMAN BODY

So far we have considered mainly those questions which relate to the origin, prevention and cure of alcohol addiction and abnormal drinking. These are crucial questions, but they are not the only important ones that fit into the alcohol problem. There are also the questions of behavior and of what alcohol does in the body and to the body.

Even the moderate drinker may occasionally—and to his regret—overindulge, just as he may on some special occasions—and equally with regret—gorge himself with food. He then experiences certain immediate effects and certain unpleasant aftereffects. He may wonder what happens to the alcohol in his body. Is it changed into something else? Does it get into the blood, the muscle, or the brain, and if so, how much gets in? Does the amount correspond to the effect he experiences? Can a chemical test be used to tell whether he is sober? How long after a drink should he wait before he drives a car? If that depends on how long the alcohol remains, how does he get rid of the alcohol? Does it merely

pass out through the breath and kidneys or is it burned in the way that many foodstuffs are burned in the body? What effect has exercise on the alcohol; what effect has food on absorption; are all alcoholic beverages absorbed with the same rapidity; why does the same amount of alcohol have a "kick" at one time and not at another? Do all beverages containing alcohol cause the same effects? Does alcohol hurt or help digestion? What occurs in the body during a hang-over?

These are not only interesting questions but they are scientifically important ones. When science finds out that the answers to the questions raised about the fate of alcohol in the body, it may also hit upon the answers to what brings about tolerance and what brings about the ill effects of excessive use of alcohol. All these questions are referred to in scientific writings as *the problems of absorption, metabolism and elimination of alcohol* and as *the problems of alcohol and body chemistry*. These problems will be dealt with in Lay Supplement No. 7, *What Happens to Alcohol in the Body*.

Such questions lead directly back to our major problem, that of inebriety. It is well known that people who drink heavily for a long time eventually develop the "jitters." Does this come from "nerves?" Does alcohol irritate the nerves? Or does it interfere with the nerves through the influence which it might exert on the body chemistry? This problem, which we shall call *the problem of alcohol and the nervous system*, is an important one.

One could easily imagine that large amounts of alcohol might interfere with the food habits of a person; also, that it might interfere with the way he makes use of his food. These questions seem important, for we are hearing more and more about disturbed health due to faulty nutrition. *The problem of alcohol and nutrition*, therefore, must also be entered on our list. (Supplement No. 8, *Alcoholic Beverages as a Food and their Relation to Nutrition*, will deal with this question.)

If we consider together these possible changes in the body chemistry and the nervous system of the habitually heavy drinker, we cannot escape the question whether or not such changes may, in time, bring about less resistance to, let us say, tuberculosis, pneumonia, and other infectious diseases. The answer to this would help, perhaps, to make the occurrence of these diseases less frequent or their consequences less serious. It would also help us to understand much more clearly the full

extent of the problem of alcohol. We shall refer to this as *the problem of alcohol and disease resistance*.

It is natural to ask whether or not excessive use of alcohol could cause not merely a lowering of the resistance to disease but even diseases which, in nonalcoholics and moderate drinkers, do not occur at all or only very rarely. Furthermore, if such diseases exist, can they be cured? This is *the problem of alcoholic diseases and their treatment*. (A Supplement, *How Alcoholic Beverages Affect the Body*, will deal with this question, and other aspects will be discussed in Supplements No. 4, 8 and 9.)

If we consider the possibility of lowered disease resistance in alcoholics, and even the possibility of diseases which may occur only in heavy drinkers, we face another problem, namely, *the problem of alcohol and length of life*. We must ask whether alcoholics have a shorter life than the average man. We must ask also whether or not moderate drinking has any influence on the length of life. One can hardly talk about the advisability or inadvisability of moderate drinking without knowing something definite about this question. (This problem will be dealt with in Lay Supplement No. 6.)

The life of the children of alcoholic parents also cannot be left out of consideration. It has been asked time and again whether alcohol can bring about changes in the human germ, and if so what might be the consequences concerning the body and the mind of the offspring of alcoholics. This is *the problem of alcohol and germ damage*. (Supplement No. 5 will be devoted to this question.)

ALCOHOL AND THE MIND

WE have thought only of the diseases of the body, but perhaps long-continued heavy drinking might in itself cause mental disorders. There are many mental hospitals in this country and they are all crowded. Did some of these patients get there only because they drank too much? Does drinking cause its own kind of mental disease, or does it bring about in some people mental disorders which could develop without drinking, but perhaps would not have developed in those particular persons without it? We shall call this *the problem of alcohol and mental disorders*.

Mental disorder is an extreme condition and we must consider also whether less-severe effects may develop, as some immediate or even lasting influence on thinking, judgment, understanding, moral ideas,

efficiency and, through these single features, on all that we call behavior. To know the answers to these questions may help us to deal much more efficiently with those who drink excessively; the knowledge may help us to cure them. We shall therefore regard as important *the problem of alcohol and behavior* which, in the scientific literature, is better known as *the problem of the effect of alcohol on psychological functioning*. (Lay Supplement No. II, *How Alcohol Affects Psychological Behavior*, will deal with this problem.)

ALCOHOL AND THE COMMUNITY

MOST of the questions asked thus far have referred to the individual, his health, his behavior, his happiness. But if the behavior of many persons is influenced by excessive use of alcohol, then perhaps alcohol has an effect also on all those people in the midst of whom alcohol addicts and abnormal drinkers live. So we must consider also the effects of alcohol on society, which we shall call *the problem of alcohol and society*. Within this large problem come questions relating to the family. What effect does the heavy drinking of a father have on family life? Is it a frequent cause of divorce? Is it a source of poorer living conditions, poorer hygienic conditions in the family? Are the children in such a home getting enough nourishment? Are they receiving proper medical care? And what is the influence of the drunken father on their characters? This we shall call *the problem of alcohol and the home*.

One often reads about the drinking bouts of gangsters and other criminals. Is heavy drinking a source of crime? Or is it merely that criminals drink heavily not knowing any better form of recreation? Here we have a beginning in the discussion of *the problem of alcohol and crime*.

Since we know that a drunken man is not in command of his body, we must ask to what extent, if any, industrial and traffic accidents are caused by heavy drinking. Since these accidents are costly—both in life and in money—*the problem of alcohol and accidents* deserves careful investigation.

In industry, naturally, not only the accidents but also the inefficiency and the hang-over of the heavy drinker could cause heavy losses through decrease in the quantity and the quality of his work. This is a thing about which perhaps less is known, both to science and to the employer, than

about the other questions which we have asked. In these times, when so much depends on the quantity and quality of our industrial output, *the problem of alcohol and industrial efficiency* is certainly one which cannot be neglected. (This problem will be dealt with in Lay Supplement No. 3.)

All this leads to the question whether inebriety occasions special expenditures to the community, and if so, to what extent. This is the problem of *alcohol and the economy of society*.

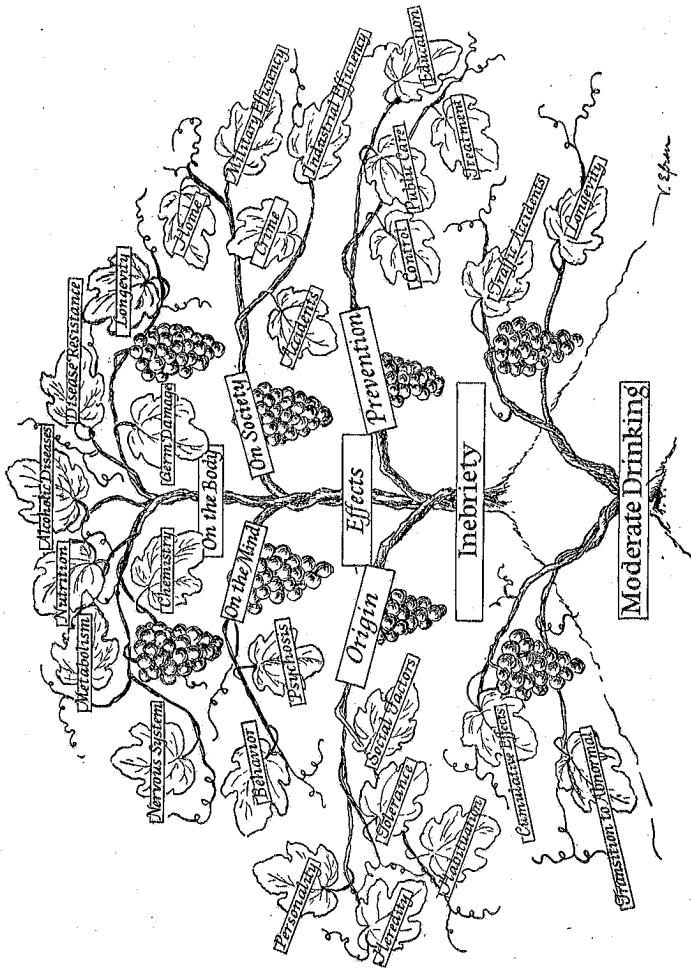
The same considerations which apply to alcohol and efficiency in industry apply also to *alcohol and military efficiency*, and this problem touches so closely the interests of all of us, that we must know whether or not it is a real problem and, if it is a real problem, what to do about it.

SOME DEFINITIONS

WE have gone through many questions without receiving answers, but at least we have seen the major ramifications of the problems of alcohol. Instead of a summary the problems are presented here in a schematic illustration.* We have also seen how many aspects of life must be considered in connection with alcohol. And we have seen how one question is related to the other. It would seem that we are now better prepared to enter on the discussion of any one of the many problems. In order to facilitate the reading of the various Lay Supplements, we shall add in this one a few definitions of expressions which we have used here and shall use even more in other publications.

We have talked of chronic alcoholics, of alcohol addicts and abnormal or excessive drinkers, and of moderate users of alcohol. Let us begin with the term "chronic alcoholic." In ordinary conversation one frequently uses this expression to describe "anyone who drinks more than I do." We see a drunken man and we say, there goes a chronic alcoholic. He may or may not be one. Physicians regard as a chronic alcoholic a person who has developed a bodily or mental disorder as a definite consequence of many years of heavy drinking. If he has no such disease, but drinks heavily, he may be described as an alcohol addict, an abnormal drinker, a compulsive drinker, or simply an inebriate. That

*The schematic illustration of the problems of alcohol is reproduced, by permission of the publishers and copyright owners, from *Alcohol Explored*, by H. W. Haggard, and E. M. Jellinek; copyrighted, 1942, by Doubleday, Doran & Co., Inc., Garden City, N.Y.



PROBLEMS OF ALCOHOL

— 1898

there may be no misunderstanding, we shall use the expression "chronic alcoholic" only in relation to a person who has acquired an alcoholic disease.

By an alcohol addict we mean a person who can keep an interest in life only by using large quantities of alcohol, or who cannot stand up to the requirements of life without the aid of alcohol, or who cannot get over things which bother him without drinking. It is common to all addicts that they cannot voluntarily give up alcohol even when they know better and have a desire to do so. They are compelled to drink, and many writers therefore prefer to call them compulsive drinkers, or problem drinkers.

It is more difficult to define the ordinary excessive drinker. He is a man who can get along without drinking if he cares to, but who drinks large quantities either because he believes that this is an easy way to overcome some defect of personality or to make up for a lack of self-confidence, or even out of sheer recklessness, exuberance or mistaken good fellowship; he runs some risk of becoming an addict; but more of becoming a chronic alcoholic.

In speaking of chronic alcoholics, addicts and excessive drinkers, we have used the somewhat vague terms "large quantities of alcohol" and "heavy drinkers." But what are "large quantities," and how much constitutes "heavy drinking?" The answer will depend upon the standard used in judging. The one employed here is the medical standard which concerns the development of alcoholic disease.

A man of low income, in spending money on alcoholic beverages, may deprive his family of the necessities of life; in the medical sense the amount may not constitute excessive drinking although in the economic sense it does. Again, a man may become drunk and in consequence have an automobile accident; he has drunk excessively on this occasion but, again in the medical sense, he may not be a heavy or an excessive drinker. These terms as used here have the significance of frequent and repeated drinking of quantities of alcohol which in most men would, in time, cause bodily harm traceable directly to the use of alcohol.

Even on this medical basis most writers on alcoholism hesitate to give any figures for the amount of alcohol which constitutes heavy drinking, because tolerance for alcohol differs widely from man to man. It is often impossible to determine, from questioning those who are un-

doubtedly chronic alcoholics and addicts, the amount they consume daily. Some greatly understate the amount and others braggingly exaggerate it. Statistical information derived from such statements is not reliable.

Between excessive drinking on the one hand, and moderate drinking on the other, we must place the *habitual social drinker*. He drinks practically every day but not in quantities which, in view of his health or his tolerance, cause alcoholic disease. He drinks for the "kick" from the alcohol and for the change in his behavior which follows. Often his drinking is to work up an enthusiasm for his social activities and to keep up with a gay crowd; the mild intoxication which gives him gaiety also makes him a dangerous automobile driver. In time he may come to believe that alcohol is "necessary" for his well-being; if he has a hang-over he might be tempted to correct it by another drink and so gradually increase the amount of alcohol he consumes until he becomes, in the medical significance of the term, an excessive drinker.

The moderate drinker not only consumes less alcohol than the heavy drinker and the habitual social drinker, but he drinks less regularly. When he drinks it is usually before or with a meal or in the evening. He drinks more for the taste of the beverage than for any effect from the alcohol. He may also use it occasionally as a "stimulant," which it actually is not, or as a "sedative" for relaxation, which it actually is. His well-being and his interest in his social life may be mildly increased by alcohol but they are not dependent upon its use. The moderate drinker can, and often does, stop drinking with no more regret than he would feel from deprivation of a food of which he is fond.