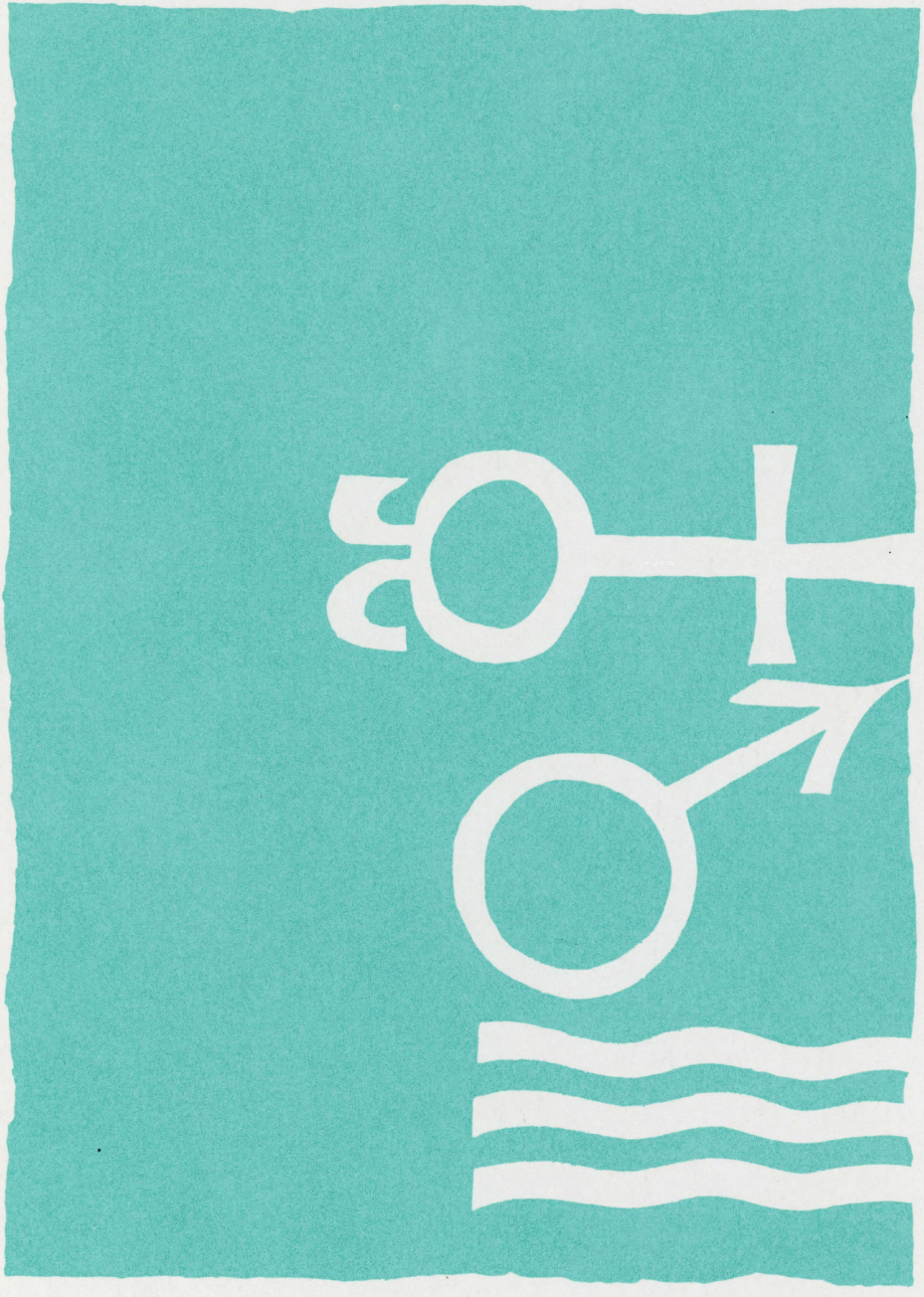
ALCOHOL, MAN, AND SCIENCE



ALCOHOL, MAN, AND SCIENCE

The symbols on the cover
represent alcohol, man, and the intellect in action

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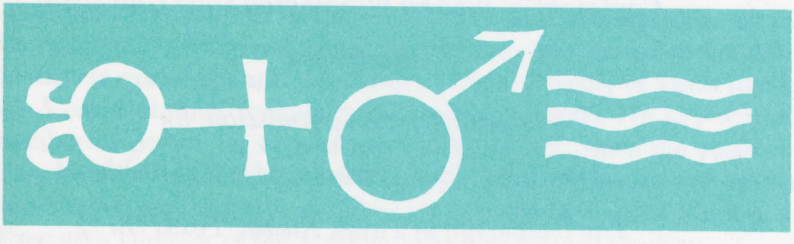

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ABOUT THE AUTHOR Dr. Milton A. Maxwell's interest in the field of alcohol studies has been an ever-increasing one. His doctoral dissertation in 1949 was on the subject of "Social Factors in the Alcoholics Anonymous Program." Since that time he has served as consultant to various workshops and as lecturer at The University of Texas Institute on Alcohol Studies, including the summer of 1966. He has written a number of papers on various aspects of alcohol. Since the summer of 1965 he has been at Rutgers—The State University in New Brunswick, New Jersey, as Professor of Sociology, Center of Alcohol Studies, and Executive Director of the Summer School of Alcohol Studies.

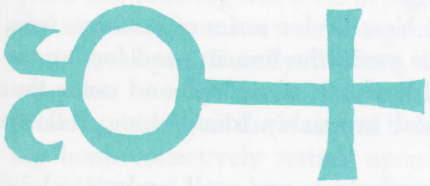
INTRODUCTION In recent years alcoholism has achieved the dubious honor of being considered one of the four leading public health problems along with mental health, cancer, and heart disease. Dr. Shervert Frazier, Commissioner of Mental Health and Mental Retardation for Texas, rated alcoholism, schizophrenia, and depression as three major areas of concern within the field of mental health.

In this publication Dr. Maxwell considers the problem of alcoholism from a sociological point of view. As he says, "To the physiological and psychological, it is necessary to add the man's groups—his family, his peers, his society—and the culture mediated by his groups." It has been said that for every person with a serious drinking problem, there are at least four other persons affected, making alcoholism a public health problem of some magnitude.

The person with a drinking problem most often has personality difficulties which show up in his "sober" behavior as loneliness, tension, shyness, or fearfulness. It is this "sober alcoholic" who now becomes the focus of concern. As Dr. Maxwell says, "The bottle is no longer held to be the main key—but rather the man."

The scientific point of view concerning alcoholism is a recent development, as the author points out. Now the various disciplines of behavioral sciences, biochemistry, and medicine are combining forces to see the problem in this light. The Hogg Foundation gladly brings together still another combination—that of placing a specific problem like alcoholism in its broad mental health context. This Dr. Maxwell has accomplished in *Alcohol, Man, and Science.*

Bert Kruger Smith



ALCOHOL, MAN, AND SCIENCE Many myths and misunderstandings surround the use of alcoholic beverages. A historical and cross-cultural perspective, along with some recent findings on both drinking and alcoholism, may help clarify the situation.

The use of ethyl hydroxide, the alcohol in alcoholic beverages, had very ancient origins and was almost world-wide. Most pre-literate societies had it before contact with Europeans. (The Indians of northern and western North America were one exception.) Once alcohol was introduced, seldom has a society rejected it.

Beer and agriculture appear to have arrived together. The temple at Erech near the head of the Persian Gulf has yielded a clay tablet about 5,000 years old with a wage list of personal names followed by the wage: "beer and bread for one day." Hammurabi's Code (about 1900 B.C.) devotes two paragraphs to the regulation of public drinking places.

Some claim that barley beer was man's first alcoholic beverage, but there is more reason to believe that wine came earlier. Pre-agricultural primitives were able to make it by the "natural fermentation" of anything with sugar in it. Such people have used berries, fruits, honey, plant saps, even mare's milk.

Distillation apparently was invented about ten centuries ago by an Arabian physician. The first general use of distilled liquor was as medi-

cine and only later, when it became more plentiful, did its use as a beverage grow. In England, for example, it was not until the 1600's that its use, in the form of Holland gin, began to gain on the traditional beer and wine.

On the anthropological assumption that an invention or custom will not survive and spread unless it gives men some satisfaction, we may well ask the basic question: Why has alcohol been valued so? The answers to this question are very important to an objective understanding of alcohol's role among human beings.

Berton Roueché, in his excellent *New Yorker* series of January, 1960, suggests one of the values when he posits the human need for "an occasional release from the intolerable clutch of reality" and notes that men everywhere have "sought, and invariably found, some reliable means of briefly loosening its grip."

Another function, frequently overlooked, was well understood by William James:

"The sway of alcohol over mankind is unquestionably due to its power to stimulate the mystical faculties. . . . Sobriety diminishes, discriminates, and says no; drunkenness expands, unites, and says yes. It brings its votary from the chill periphery of things to the radiant core. It makes him for the moment one with the truth. Not through mere perversity do men run after it."

Another valued function of alcohol is caught up in the claim that alcohol is "man's oldest tranquilizer."

We all have need for a certain amount of relaxation, tension relief, a complete dropping of the everyday world, and for recovering or increasing the sense of meaning in life—a greater sense of oneness with ourselves, with others, and with "life." Actually, there are an infinite number of other and, in the long run, better ways of achieving these ends—listening to music, dancing, hunting and fishing, making things, reading, going to the movies, viewing TV, getting out in nature, meditating, praying and worshiping, and many others.

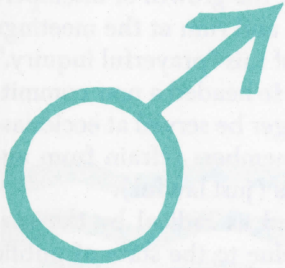
What is distinctive about alcohol in achieving these ends? The most honest answer is that it is dependable and quick. In *Carlotta McBride,* Charles Orson Gorham has his alcoholic say:

"One thing about alcohol, it works. . . . On short term, it works much faster than a psychiatrist or a priest or the love of a husband or a wife.

Those things . . . they all take time. They must be developed. . . . But alcohol is always ready to go to work at once."

Most Americans, however, rely primarily upon nonalcoholic ways of gaining tension relief or of adding meaning and richness to life. Alcohol is taken in moderation by them and is just one of many modes of relief.

If alcohol usage is so widespread because it is valued, we can also say that fear of it has been equally universal. In primitive societies, alcoholism was not among the feared outcomes, for the supply was never adequate and drinking was done in a group. But disruptive sexual behavior and violent aggression were dangers. Ways of minimizing these dangers were developed. Usually, the men drank in a place apart, without their weapons. In some South African tribes, the women policed the men's drinking, hiding all the weapons beforehand and then, during the drinking bout, collectively setting upon any man who was becoming too aggressive and tying him up in a hammock.



CUSTOMS DEVELOPED The double-edged power of alcohol has been recognized in all societies using alcohol. But almost as universally, appreciation for the valued powers has overridden fears of the dangers. Customs were simply developed to minimize the dangers.

The customs of use and the customs for minimizing the dangers have been enormously varied. When the prevailing customs in a given society have seemed to be reasonably adequate, there has been almost no concern about alcohol. When the customs are such that they actually increase the damaging effects of drinking or when the formerly protective customs break down, it is then that concern about alcohol mounts.

Even the American temperance movement cannot be understood unless it is seen, in part, as a reaction to drinking behavior which was considered to be too harmful.

Before 1830, we were a much heavier drinking nation than at any time since. The Puritans did not frown upon drinking, nor have most Christians throughout most of the Christian era. Alcoholic beverages were viewed as a gift from God. The Puritans, however, did make a sharp distinction between drinking and drunkenness. In no colony was moderate drinking viewed as a threat to either individual or social welfare. At Harvard College, beer was served regularly in the dining hall. The clergy drank.

But in the late 1700's and early 1800's, there seems to have been an increasing breakdown of controlling customs and more "intemperate" drinking. Even so, in 1812, when Lyman Beecher proposed to his fellow Congregational ministers in the Litchfield (Conn.) Association that they formulate a program for combatting drunkenness, "the regular committee reported that 'after faithful and prayerful inquiry' it was convinced that nothing could be done to check the growth of intemperance. . . ." The custom of serving Canary sack and rum at the meetings of ministers probably influenced the outcome of this "prayerful inquiry."

But Lyman Beecher was not to be stopped. He headed a new committee which proposed that "ardent spirits" no longer be served at ecclesiastical meetings (just wine), and that church members refrain from unlawful selling and buying of alcoholic beverages (just lawful).

The fact that these proposals were regarded as radical by the custodians of the New England conscience is a clue to the state of public opinion in 1812.

For another fourteen years Lyman Beecher seemed to be getting nowhere, but in 1826 he spearheaded the founding of the first "American Temperance Society," with a program aimed at drunkenness and the "daily use of ardent spirits." So the temperance movement did begin with temperance as its goal. The movement took hold, and ten years later it claimed a million members in 5,000 societies. By this time, the leaders had developed enough anti-alcohol feeling that they set up the society's goal as total abstinence (and lost half their membership).

In the 1840's, another switch occurred. "Moral suasion" was not fast enough, so "legal suasion" became the main goal—prohibition, in short.

In 1851, Maine was the first state to have prohibition, and she was joined in the next four years by 12 others. But eight years later, in 1863, the prohibition laws had been repealed or watered down in 12 of these 13 states—the first failure of prohibition in the United States. And so it went, up and down, with increasing emotionalism. To many of the drys, the meaning of the effort could be summed up in the title of one book on the history of the movement: *Battling Against the Demon.*

When we entered World War I, prohibition had again been achieved in 25 states. And by 1919, 95 per cent of the land area in the United States and two-thirds of the population were under state or local prohibition. Then came national prohibition, early in 1920—to go out again in 1933. The bitter emotionalism of this 100-year period of wet-dry controversy must be taken into account to understand the state of affairs about 30 years ago. Each side had created its share of folklore and myth and, between them, they had polarized the issue so sharply that there seemed to be only two poles, only two viewpoints.

SCIENTIFIC VIEWPOINT This historical background sets the stage for appreciating the emergence of a third viewpoint, that of science, in the late 30's, led by what came to be known as the Yale Center of Alcohol Studies. (The center moved to Rutgers University in 1962.) Scientific efforts are now going on in many additional places, at an increasing tempo, and involving all relevant disciplines.

But the scientific row has not been an easy one to hoe. One scientific writer sadly observed: "Alcohol is an ungrateful subject. Most people who are interested in the subject are already partisans on the one side

or the other, and no body of impartial opinion exists which is ready to be guided by scientific inquiry." And the pioneering Yale Center ran into the same problem. Some temperance organizations decided that the center was but a front for the liquor industry; some men from the beverage industry were certain that the center was just a sophisticated front for the drys.

Today a greater proportion of abstainers as well as drinkers are willing to listen to what science has to say. But complete freedom from the wet-dry polarity, if it is ever won, lies in the future. Almost all, if not all, of us are still affected by it in varying degrees and in a variety of ways—if in nothing more than the subtle ambivalence which still exists in so many persons.

One sign of this ambivalence is the humor which so often accompanies talk about drinking. In 1949, when the Yale Center launched its mammoth study of drinking in college, almost every reporter and columnist felt compelled to place the story in a humorous context. Even when the press release was printed word for word, which was rarely done, the headline writer had to introduce a humorous twist such as, "Campus Tippling Survey." One columnist referred to the study as a "Booze Kinsey."

Myth and distortion regarding alcohol have not, however, been a monopoly of Americans. The double-edged powers of alcohol have led to opposing extremes of opinion in other countries, in other centuries. An 1840 British book listed 42 diseases of alcoholic origin including pneumonia, cholera, diabetes, and all insanity.

Then at the other extreme there were enthusiasts like Hieronymus Brunschwig, a leading German physician of the 15th century, who saw distilled spirits as good for almost anything, the "aqua vitae."

Alcohol does have medicinal uses; depending upon the quantity, it can have sedative, analgesic, hypnotic or anesthetic effects. However, it is seldom used in modern medicine because for most purposes physicians have better drugs at their disposal. But in folk medicine it has a more prominent place. Extremes may be gone, but faith lingers on, as demonstrated by the sign put in the window of a Kansas City bar during a recent epidemic, which advised the patrons and passers-by to "Fight the Flu with Whiskey."

Roueché summed up his historical review: "The popular mythology

of alcohol is a vast and vehement book. [It is] the classic text in the illiterature of medicine."

This is the background for appreciating the important role of scientific alcohol studies. For the first time in human history, science is being applied in an organized fashion to alcohol and alcohol-related behavior and problems. The efforts of the last 30 years have produced substantial gains. But there is so much we don't know. In fact, about all we can say is that we have made a great start.

SOME STATISTICS Let us now turn to some data which will help paint both the historic and the current picture with regard to drinking practices. Details are found in the accompanying tables.

Not shown is the fact that the per capita consumption of alcoholic beverages is not higher than it was a century ago. In fact, during the 1950's, the consumption of about two gallons of absolute alcohol per capita of the drinking age population of 15 years and older (and all per capita comparisons herein are made on this basis) was lower than during most of the preceding hundred years. At times it got up to two and a half gallons and actually exceeded that during the decade preceding prohibition.

The most striking long-term change occurred during the 1850–90 period, when the consumption of spirits decreased by about half and the consumption of beer increased sixfold. Since then, beer has remained slightly ahead of spirits. Wine consumption is low and has fluctuated little.

Another dimension of drinking behavior is frequency of drinking. The findings from a Washington State study (Table 1) reveal not only that drinking frequency varied greatly, but also that the proportion of frequent drinkers was small.

Table 1. DRINKING FREQUENCY BY PER CENT OF ADULT POPULATION STATE OF WASHINGTON, 1951

	Total	Men	Women
Each day	3.6%	7.5%	0.0%
4–6 times a week	2.5	4.0	1.2
3 times a week	4.9	7.9	2.0
1–2 times a week	8.0	10.1	6.1
2–3 times a month	14.2	15.9	12.7
Once a month	11.9	14.5	9.4
1–5 times a year	18.2	16.3	20.0
Abstain	36.7	23.8	48.6
	100.0%	100.0%	100.0%

In another analysis, the Washington State survey found that those who had three drinks or more at a sitting, two or more times a month, constituted 15 per cent of all drinkers. One wit referred to "this dedicated remnant, this 15 per cent, that apparently is sacrificing its all to maintaining the pioneer legend of hard-drinking frontiersmen."

The same study also revealed that (1) drinking and drinking frequency tended to be more like that of spouse and friends than of parents, epecially in the case of women; and that (2) the much-publicized stereotype of heavy drinking among lower-class men and women did not apply in the State of Washington, thus raising questions about its application in other states.

The national surveys, conducted in 1946 and 1963 (Table 2), show that the percentage of adults who drink has increased. It should be recalled, however, that Americans are not drinking more per capita. The 1963 study also found exactly that same 15 per cent of drinkers in the highest "quantity-frequency" categories as were found in the Washington State study. That "dedicated remnant" appears to be hanging on, but it is not growing larger.

Table 2. PER CENT OF ADULTS WHO DRINK IN U.S.A.*

	1946	1963
TOTAL SAMPLE	65%	71%
Men	75	79
Women	56	63

CHANGES IN THE PER CENT OF DRINKERS, U.S.A., BY AGE CATEGORIES

	1946	1963
21–25	73%	78%
26–35	75	78
36–45	68	78
46–55	58	66
Over 55	50	59

* Each survey by National Opinion Research Center, University of Chicago. Information compiled by Harold A. Mulford in *Quarterly Journal of Studies on Alcohol,* December, 1964.

The comparison of drinkers by age categories (also Table 2) shows an increase at all ages. But in each study, the percentage of drinkers declined with age. Further analysis in this and other studies supports the finding that, at least at this time in American history, as people grow older, more join the abstaining ranks.

Additional findings from the 1963 national study are to be seen in Table 3. Impressive are the differences by geographic region (Texas is in the West South Central category) and by religious affiliation. But most striking are the interrelated findings that the percentage of drinkers increases with education, occupational status, and income.

Table 3. PER CENT OF ADULTS WHO DRINK, U.S.A., 1963

BY GEOGRAPHIC REGION

	Drinkers
1. Middle Atlantic	88%
2. New England	81
3. Pacific	79
4. East North Central	75
5. West North Central	74
6. South Atlantic	64
7. Mountain	55
8. West South Central	48
9. East South Central	33
Total Sample	71%

BY RELIGIOUS AFFILIATION

	Drinkers
Jewish	90%
Catholic	89
Lutheran	85
Congregationalist, Presbyterian, and Episcopalian	81
Protestant, unspecified	78
Methodist	61
Small Protestant Denominations	53
Baptist	48
Total Sample	71%

BY YEARS OF EDUCATION

Education, Years	Drinkers
0–7	46%
8	60
9–11	70
12	79
13–15	76
16	89
More than 16	79
Total Sample	71%

BY ANNUAL INCOME

Annual Income	Drinkers
Under $3,000	54%
$3,000–4,999	64
$5,000–6,999	68
$7,000–9,999	85
$10,000 and over	87
Total Sample	71%

BY OCCUPATIONAL LEVEL

Occupational Classification	Drinkers	Occupational Classification	Drinkers
.00–09	69%	50–59	76%
10–19	67	60–69	84
20–29	76	70–79	80
. .30–39	73	. :80–89	87
40–49	83	: :90–99	100

.00–09 includes laborers, private household workers
. .30–39 includes salesmen, small business proprietors
. :80–89 includes college professors, engineers
: :90–99 includes physicians, judges, lawyers, dentists

The foregoing findings provide perspective. It is one thing to note that 71 per cent of adult Americans (about 80 million in 1965) drink. But actually there are great differences among the various population categories; furthermore, the vast majority of drinkers drink very moderately.

Where, then, are the alcohol problems? Among strictly moderate drinkers? Generally, no. But there may be times when moderate drinking reduces judgment and inhibition enough to lead to some form of harmful behavior. Sometimes the disapproved behavior is intended and the drinking is merely facilitative.

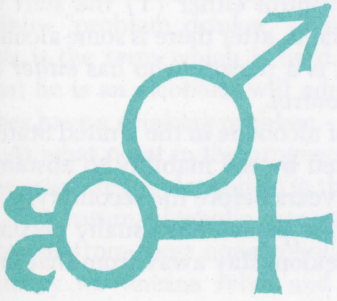
One of the most serious consequences of moderate drinking comes from drinking and driving. There is a basic incompatibility between the requirements of safe driving in fast-moving traffic and the decrease in judgment, discrimination, and reaction time which occurs after consumption of even very small amounts of alcohol. This serious and growing problem is receiving concerted research attention at the Rutgers Center.

What about moderate drinking and health? Here, the frightening myths of the past have been quite thoroughly debunked. There is no evidence that alcoholic beverages, in themselves, in small amounts (a drink or two), taken even daily, will have deleterious effects or be addictive. But because drinking usually occurs in a social context and certainly in a context of personal meaning, its effects are not merely physiological. What is safe for the body may not be safe for the person. We need the further caution that, as in the case of many drugs, there always seem to be exceptions—what is physiologically safe for almost all is unsafe for a few.

Even though drinking creates no problems for most moderate drinkers, we cannot rule out certain problems which may stem from moderate —even very moderate—use.

But it is the immoderate users who, for the most part, create most of the trouble stemming from drinking. The 1963 national study found that ten per cent of all drinkers (moderate and immoderate) reported one or more "troubles" with spouse, police, employer, or health. This ten per cent total broke down into 16 per cent of the men and two per cent of the women.

We can assume that it is in this ten per cent that we find most of our alcoholics. This raises the question: What is an alcoholic?



WHEN IS AN ALCOHOLIC? The definition of an "alcoholic" is troublesome to many—partly because there are varieties of alcoholism and partly because many persons when they ask, "What is an alcoholic" really mean, "When is an alcoholic?" They want a definition which is

impossible to give; they seek the drawing of a very precise line, the crossing of which clearly marks the onset of alcoholism.

The elements present when we have alcoholism have been described by Mark Keller. (He refers to alcoholics who are drinking, not "former," "recovered" or "arrested" alcoholics.)

Drinking there has to be, plus ill effects which unquestionably derive from drinking.

But what kind of drinking? There has to be a repetitiveness or chronicity about it. Furthermore, it has to be of a certain character, often described as excessive (though there are some nonalcoholics who drink more than some alcoholics). Other characterizations of alcoholic drinking are marked, implicative (suspicion-arousing)—giving the impression that "there is something wrong about it." There is no precision here, but in using the terms repetitive and implicative we have eliminated drinking damage which stems from infrequent drinking or from drinking which conforms to general practice.

Then, in addition to a certain kind of drinking, we must have ill effects from the drinking on the drinker himself in the areas of health, social, or economic life.

Only as these criteria are met do we have a basis for inferring a psychological or physiological "dependence." What is the behavioral evidence of "dependence"? It consists of, to use Keller's language, "the inability of the drinker consistently to control either (1) the start of drinking or (2) its extent once started [that is, after there is some alcohol in the bloodstream]." An alcoholic then, is a person, who has *either or both* of these inabilities, these "losses of control."

In the case of our most common type of alcoholic in the United States, the dependency upon alcohol (manifested by the inability to abstain) sets in very gradually. Usually it is some years before the second type of loss of control sets in. But by that time the person has usually become so dependent upon alcohol that he can seldom stay away from that first drink without help.

Alcoholism is a progressive illness with a very gradual, frequently imperceptible, onset (though the progression accelerates later on). So there is the question of how much loss of either the first or the second ability to control is needed to identify an alcoholic.

There is no problem in identifying an alcoholic who is in the late stage. In the middle phase, some are easily recognized, some not so easily. In the earlier stages, alcoholics are seldom recognized as such and the presence of alcoholism may be very difficult to diagnose.

Many alcoholics are hidden from recognition by others, and even by themselves, by the stereotype of late-stage alcoholics—perhaps the Skid Row type or even the "Lost Weekend" type. But the majority of our alcoholics, at a given time, are not late-stage alcoholics. One study showed that almost 70 per cent of the male alcoholic patients at a Seattle private hospital for alcoholics were married and living with spouse; 95 per cent of them were employed. Unusual patient population? Yes, but another study of men in ten free or low-cost clinics also showed a much higher degree of marital and occupational integration than the usual stereotype warrants.

We have further reason to believe that the great majority of alcoholic men are steadily employed. My study of 400 male alcoholic employees shows that 30 per cent of the men claimed that they had had a drinking problem for three years or more before the first sign of their problem, even a hangover, appeared on the job; over two-thirds of them were still on the same job, where their problem had been showing, one year after they first sought outside help for their drinking problem.

The end-stage stereotype needs destruction, for the majority of alcoholics do not fit. Perhaps, we should drop the word "alcoholic" and substitute "problem drinker." This has its own prolems, but in industry this is the term which is used. Many an employee vigorously denying that he is an alcoholic will admit, once it comes into the open, that he does have a drinking problem.

At what point in the progression of symptoms are persons included in the estimates of alcoholism in the United States?

The future alcoholic, according to Jellinek, begins to differentiate himself from most nonalcoholics by using alcohol with increasing frequency for tension relief and other personal goals. His tolerance increases so that he needs more alcohol to obtain the same effect. He has blackouts and, in time, these occur more often. (A blackout is not passing out. The person simply cannot recall a period during, say, the previous evening's drinking when he was quite awake and active.) His

preoccupation with alcohol increases. Because alcohol is becoming less a social beverage and more of a drug, he tends to gulp the first drink to achieve his intended purpose more rapidly. Because he feels he needs more alcohol than most of his friends, he primes the pump by drinking some before he goes to the party or, at the party, he sneaks extra alcohol into his drinks. For the most part, he keeps up the appearance of drinking like others, but he recognizes that his drinking is a little different. He has some guilt feelings at times. He becomes a little sensitive and quits talking about drinking as he once might have. Take all or most of these signs together and we have clear indications of a growing dependency upon alcohol—the development of the first type of loss of control. These constitute the usual early warning signs.

Then, after some years (maybe it comes quickly or after ten or 15 years), the second type of loss of control sets in. This is the loss of the ability, once alcohol is in the system, to control the extent or termination of drinking in a given drinking situation. He means to have only two or three drinks, but once they are in him, the former control is gone. He just keeps on going. Like the first loss of control, this second type also has a gradual onset. At first, it may happen only once or twice out of ten drinking episodes. Then it happens more often; but when important events lie ahead, he may succeed in stopping in time. Eventually, it will happen every time he drinks.

It was Jellinek's intention in his estimates of the number of alcoholics to include all those who manifest this second loss of control four or five times in ten drinking occasions and also to include those who never show this second loss of control phenomenon but who show signs of further damage. In my conversation with him, he indicated his belief that anyone who shows a syndrome consisting of most of the early signs probably should be classified as an alcoholic, for it is most unlikely that such a person can ever again drink safely. But for estimation purposes, Jellinek drew the more conservative line.

NUMBER OF ALCOHOLICS How many alcoholics are there in the United States? Here one runs into a variety of estimates up to 6.5 million. But, on the basis of evidence too complex to explain briefly, I believe that Mark Keller's estimate of about 4.7 million (in 1964) is the most authoritative. This means a national rate of four per cent of the adult population (or 5.6 per cent of all adult drinkers). Even by this estimate, alcoholism is a very substantial problem.

Alcoholism rates are higher in certain states than in others, as illustrated in Table 4. Texas, for example, has a rate of just under 2.8 per cent as compared to the California rate of 6.4 per cent, or the national rate of 4.0 per cent.

Table 4. ESTIMATED PER CENT OF ALCOHOLICS IN ADULT POPULATION, U.S.A., IN HIGHEST AND LOWEST STATES, 1964

1. Nevada	6.6%
2. California	6.4
3. Rhode Island	5.9
4. Massachusetts	5.7
5. New York	5.5
43. Wyoming	2.3%
44. Oklahoma	2.1
45. North Carolina	2.0
46. Utah	2.0
47. Idaho	1.9
48. Alabama	1.8
U.S. Average	4.0
34. Texas	2.8

Alcoholism rates are higher among men than women—about 5.5 times as high, though this ratio varies by areas and subcultural groups. They are higher among Irish-Americans than among Italian-Americans, and

lowest of all among Jews. American rates are about twice as high as Canadian. In terms of our main type of alcoholism (also predominant in northwestern Europe), the United States leads the world. Why should these differences exist?

This suggests the complex problem of etiology. For a long time, alcohol got most of the blame for alcoholism, along with a lack of will power or just plain sinfulness. Today, we are disenchanted with such simple answers. The bottle is no longer held to be the main key—but rather the man. And, the "causes" in the man are analyzed differently now. Some researchers would emphasize his physiological differences; others, his psychological differences. I feel compelled by the evidence to include both. Furthermore, I see them as combining in many different ways. To the physiological and psychological, it is necessary to add the man's groups—his family, his peers, his society—and the culture mediated by his groups. All the relevant biological, psychological, and sociocultural factors must be taken into account.

If general opinion once gave the bottle too much weight, much of today's writing about cause focuses too exclusively upon psychological factors—neuroticism, emotional conflicts, immaturity. The reasons may be simple. By the time most alcoholics show up in Alcoholics Anonymous or at a clinic, their years of deviant drinking have increased their load of stress so that they present a much worse psychological picture than they would have earlier. If, on the other hand, we investigate the pre-drinking personality, it appears that many alcoholics would then have been classified as "normal" (at least normal like us). Furthermore, when we see that most "normal" persons in our society, and most neurotics, even those who drink, rely primarily upon other means for handling their tensions, we can't escape the question: What are the factors which lead the future alcoholic to *learn* to use alcohol as his *primary* means of stress relief and personal goal seeking? This learning is important. *All* the factors (physiological, psychological, and sociocultural) which could enter into such learning need to have a place in the etiological picture.

* * *

As for sociocultural factors, certain hypotheses have been advanced to account, in part, for differences in alcoholism rates.

Ullman of Tufts hypothesized that a high degree of consensus and consistency about drinking customs, drinking values, and sanctions will provide the main conditions for low alcoholism rates and that, conversely, ambiguity and lack of consensus, along with their consequent guilt or ambivalence, will correlate with high rates.

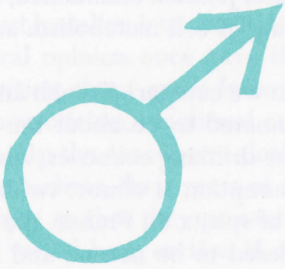
Jellinek, after studying alcoholism in many countries, added the emphasis upon cultural attitudes toward both drinking and drunkenness— differences in the answers to such questions as: What degree of intoxication is within acceptable limits? Is it frowned upon altogether? How much daily intake is acceptable? Can a man turn down a drink without giving offense? As for drinking, he felt that it makes quite a difference as to what is customary with regard to what beverage is favored (the alcohol content being a major factor); with regard to the where, when, and why of drinking; and with regard to the manner of drinking (rapidly or slowly). Factors such as these, Jellinek maintained, made for important differences in the conditioning of cell metabolism and in the development of alcoholism.

Some of these factors stand out when we compare French and Italian drinking. Alcoholism in France is estimated to be about ten times as high as in Italy. Since they are both wine-drinking countries, what makes the difference? First, the French consumption is almost twice as high with a somewhat greater consumption of spirits. In France, the drinking of two quarts of wine a day is considered to be normal and harmless among certain working men who begin drinking a little with breakfast, drink a little all through the working day, with more for lunch and still more for the evening meal, and continuing on to bedtime. In Italy, most drinking is with heavy carbohydrate meals (and not before meals, as is so common in the United States), so that absorption of alcohol is slowed down and the blood alcohol level stays low.

In France, drunkenness, while not a frequent occurrence for working men, is treated indulgently. In Italy, intoxication is definitely frowned upon. In France, a man cannot decline a drink without giving offense. In Italy, no such pressure exists. Such differences in drinking attitudes and customs seem to play a major role in the strikingly greater French alcoholism rates.

Bales of Harvard adds his three hypotheses which are interrelated and to be considered together: alcoholism rates vary (1) with the level

of anxiety typically produced in a society, (2) with the extent to which a society teaches other modes of anxiety relief, and (3) with customary attitudes toward drinking. By the second, Bales implies that alcohol can have an extra attraction to persons who have not learned enough other ways of relieving stress and achieving valued goals (or have not learned the ways well enough) and that some societies are more deficient in promoting such learning than others. To this I would add: Alcohol can be more attractive to persons within a given culture or subculture who find it more difficult, for one reason or another (physiological and/or psychological), to relax and relate to others or who, for some reason or other, feel that they can find more of what they are looking for in alcohol than they can find through nonalcoholic ways.



ATTITUDES TOWARD DRINKING Under attitudes toward drinking, Bales stressed the context of meaning in which it takes place. He identified the *ritual, convivial,* and *utilitarian* meanings—to which I would add the *dietary.* On the assumption that it is utilitarian drinking which can lead into alcoholism, ritual and dietary definitions are seen to be preventive of alcoholism. Let us look first at the Jews, among whom the ritual attitude was felt to be basic by both Bales and Snyder. Wrote Bales:

"In the Jewish culture the wine is sacred and drinking is an act of communion [that is, fellowship with the sacred and the sacred community]. The act is repeated again and again and the attitudes toward drinking are all bound up with attitudes toward the sacred in the mind and emotions of the individual. In my opinion, this is the central reason

why drunkenness is regarded as so 'indecent'—so unthinkable—for a Jew. . . . Drunkenness is a profanity, an abomination. . . . Hence the idea of drinking . . . for some individualistic or selfish reason arouses a counter-anxiety so strong that very few Jews ever become compulsive drinkers."

For the dietary attitude toward drinking, the Italians are a good example, and, as previously indicated, the alcoholism rate is very low in Italy. Lolli describes the dietary learning:

"The use of wine seems to grow with the Italian child. From a few drops added to his glass of water early in childhood to undiluted beverages of adolescent years, the intake increases slowly until it is stabilized

Table 5. APPARENT CONSUMPTION OF ABSOLUTE ALCOHOL IN ALL BEVERAGES, IN U.S. GALLONS, PER CAPITA OF DRINKING-AGE POPULATION, IN SELECTED COUNTRIES BY RANK

	Gallons Absolute Alcohol	Most Used Beverage and its Per Cent of Total Absolute Alcohol
1. France	6.82	Wine (78.4)
2. Italy	3.51	Wine (87.3)
4. Australia	2.56	Beer (76.0)
6. West Germany	2.34	Beer (60.1)
7. Belgium	2.25	Beer (86.8)
8. U.S.A.	2.11	Beer (46.9) and Spirits (42.7)
9. Canada	1.92	Beer (62.0)
12. United Kingdom	1.63	Beer (80.4)
15. Sweden	1.32	Spirits (63.3)
21. Netherlands	.85	Spirits (47.6) and Beer (41.4)

(Drinking age = 15 years and over)

at adult level. Episodes of overindulgence tend to occur as isolated experiences within the frame of healthy family life. These rather rare excesses are accepted without fear (as, e.g., we might treat a child who has eaten too much candy) and interpreted as almost unavoidable in the maturation process. Drinking is done primarily at meals with solid foods so that eating and drinking of wine become inextricably connected and related."

Convivial drinking, according to Bales, "is a mixed type, tending toward the ritual in its symbolism of solidarity, and toward the utilitarian in the 'good feeling' expected. Wherever it is found highly developed it seems to be in danger of breaking down toward purely utilitarian drinking. This [high development] is to be found in marked form in the Irish culture."

In Irish culture, almost every holiday, every important occasion such as birth, baptism, marriage, and death, and nearly every other occasion had drinking as a part of it. Of all ethnic groups in the United States, it appears that the Irish-Americans have the highest alcoholism rate.

Some of these sociocultural suggestions can be applied to the United States, where the highest alcoholism rate exists:

(1) We are living in a society where unshared, individual anxieties and stress are high. (This fits one of Bales' hypotheses.)

(2) Our drinking customs are highly variable and inconsistent, ineffectively and inconsistently enforced, poorly integrated into the remainder of our culture, with consequent ambivalence and guilt. (Ullman's thesis.)

(3) There are many attitudes and practices—and opportunities—in our culture which suggest and facilitate utilitarian drinking. (Another of Bales' hypotheses.)

With regard to the first point, the high anxiety level, Selden Bacon has shown how extremely complex American society has become. It is very urban, with one-third of all persons now living in large urban areas of a million or more. It is a very secondary society where many persons are—compared to a generation ago—relatively rootless, traditionless, without enough primary group anchorage. It is a highly mobile society, rapidly changing, highly specialized in occupations and functions. Individuals are more or less on their own, in a highly competitive society where success is hopelessly defined as reaching the top or at least as staying ahead of the Joneses. Is there any other society in the world which is as much this way?

Bacon believes not only that our society produces more anxieties, but also that in this kind of society there is a reduction in satisfying social contacts. We are more and more strangers to each other, more and more ignorant about each other's work, and more competitive. Yet we need social contact. How do we achieve it? Many persons have found that

alcohol can play a useful role in enabling strangers, acquaintances, and competitors to become relaxed with each other and to enjoy social occasions. It serves as a social lubricant.

Then there is the second point—that we have unclear, inconsistent, and unintegrated drinking customs. Bacon describes the mixed-up situation found in many areas of the United States:

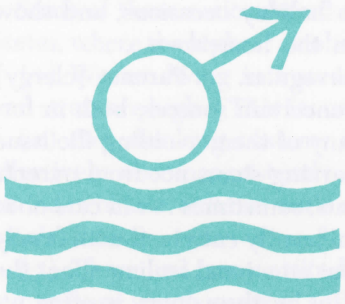
"The social functions of drinking are rather vaguely and somewhat defensively described. . . . The rules and procedures are on occasion rather specific, but also show enormous variability so that a given individual may follow one set of rules with his family, another with business or professional associates, and a third on holiday occasions, and show even different patterns when away from the hometown. . . .

"Sanctions for violations are extremely irregular. . . . Parents, [clergy] and other agencies of sanction are most uncertain sources, both in formal statement and in actual behavior, many of them avoiding the issue whenever possible. . . . Sometimes the learning stems not from parents [and] elders . . . but from other adolescents, sometimes . . . in cars or in commercial places. The custom is not significantly entwined with family and religious institutions. . . . There is great emotional feeling about the problem. Activating the custom, especially by the young, is often attended with feelings of guilt, hostility, and exhibitionism and may occur as a secretive practice insofar as parents [or other adults] are concerned."*Journal of the American Medical Association 164*:179–80, 1957.

Now put these two together—the high anxiety level and the lack of clear, consistent and integrated drinking customs (with the consequent guilt or ambivalent feelings)—and add other common drinking attitudes, and we have a favorable terrain for the development of utilitarian, stress-relief drinking. At least, we can see that many persons in our society have a family, peer group or subcultural exposure—an exposure to drinking attitudes and values—which provides them with little protection against, and considerable inducement to, the learning to use alcoholic beverages for the utilitarian purposes of anxiety relief and the achievement of personal goals.

Moreover, the sociocultural forces favorable to the learning of such utilitarian drinking strike more powerfully upon some members of American society than upon others—thus, in part, accounting for the

differential rates of alcoholism in the various segments of the population. For example, they impinge more strongly upon men than upon women, upon urban than upon rural residents, upon Easterners than upon Southerners, upon Irish-Americans than upon Italian-Americans. Within any of the named segments, the sociocultural forces act more strongly upon some individuals than upon others.

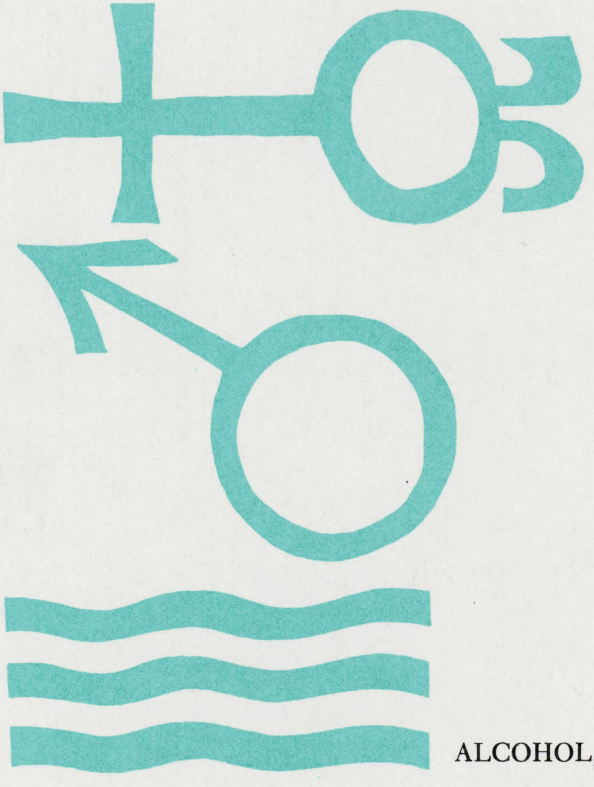


A GROWING MOVEMENT Beginning with Alcoholics Anonymous and the Yale Center in the mid-30's, the movement has grown rapidly, and is still growing, involving more scientists, more actionists, and more of the public.

Alcoholics Anonymous, with about 350,000 members in 10,000 groups in the world (about 350 groups and 8,000 members in Texas in 1966), keeps growing at about six per cent per year. The National Council on Alcoholism grows stronger nationally and has about 70 local community committees with information and referral services. About 40 states have tax-supported alcoholism programs. There are now more than 125 professional clinics for alcoholics (three public ones and two private ones in Washington State). About one hundred major corporations have changed their personnel policies to one of helping instead of just firing the alcoholic employee. More foundation and federal money is being spent for research and demonstration projects. More professionals are becoming interested.

The movement is making highly encouraging strides. But, the movement will not be fully successful until we have more knowledge and until this knowledge, along with newer attitudes and practices, finds its way into the regular institutional structures of society; until, for example, these practices are taught in the medical schools in regular fashion by the regular faculty and become an established part of medical practice. Only then will the gains of the current and growing interest become firmly and lastingly established.

DESIGN: *Tom Cunningham,* Office of Advisor to University Publications



ALCOHOL, MAN, AND SCIENCE