

A STUDY OF ALCOHOLISM AS AN OCCUPATIONAL HAZARD OF MERCHANT SEAMEN

By

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THE present paper is based on the study of the drinking habits of British seamen interviewed during a recent journey.

BACKGROUND

The age-old phrase "drunk as a sailor" illustrates the fact that popularly the association between seafaring and heavy drinking has long been accepted as common. However, apart from a brief reference by Rose (1959) hardly anything seems to have been written on the subject in the British medical literature and relatively little elsewhere. Among American merchant seamen passing through Merchant Marine Rest Centres, Powdermaker (1945) and Heath (1945) found that about one-fifth were alcoholics. Among Swedish alcoholics Amark (1951) found seamen to be more common (to a statistically significant degree) than in the general population. Ødegard (1951) (Norway), writing of drinking associated with special occupations, refers to sailors and travelling salesmen as examples of groups of people whose occupation keeps them away from home for long periods.

METHOD OF INVESTIGATION

We devised a questionnaire which was used by one of us (H.K.R.) who at the time of the investigation was serving on board ship as a ship's surgeon. The seamen were interviewed whilst the ship was at sea. Sixty men out of a total crew of 72 were interviewed on one ship. This was a random sample, the seamen being interviewed as one happened to come across them. There were only seven refusals amongst those asked. The other 40 were found on two other ships lying in harbour in Trinidad. Once again the first men found on board ship were interviewed, no attempt being made to find any particular type of seaman. These seamen change ship frequently and can be considered to be fairly representative of the British merchant seaman, as judged from a previous investigation (Rose, 1959). The large majority of the seamen interviewed originated from Liverpool, but there is no reason to believe that seamen from other cities are different in their habits.

The form was filled in by the doctor concerned during the interview, the seaman being told that the information given was not the concern of the Shipping Company and was for private use only. To encourage truthful replies no names were taken, but initials were used to prevent duplication. A most co-operative attitude was found, although personal observation suggested a tendency to "play down" the drink taken.

Results: The results are shown in the enclosed tables.

TABLE I
100 Naval Personnel comprising 32 Officers and 68 Crew

1. Age					
15-25 years	..	..	..	..	43
26-35 "	..	..	..	..	35
36-45 "	..	..	..	..	11
Over 45 "	..	..	..	..	11
2. Marital Status					
Married personnel	..	..	..	..	48
Unmarried personnel	..	..	..	..	52
3. Nature of Predominant Drink					
Beer drinkers	80	Comprising 21 Officers and 59 Crew			
Cider "	1	"	0	"	1 "
Wine "	4	"	0	"	4 "
Spirit "	14	"	10	"	4 "
Teetotal	1	"	1	"	0 "

TABLE II
Amount of Drink in Relation to Time at Sea

1. "V. HEAVY" (26) Total					
Less than 5 years at sea	..	..	..	..	3
5-10 years at sea	..	..	..	..	12
11 years and more	..	..	..	..	11
"HEAVY" (25) Total					
Less than 5 years at sea	..	..	..	..	3
5-10 years at sea	..	..	..	..	6
11 years and more	..	..	..	..	16
"MODERATE" (27) Total					
Less than 5 years at sea	..	..	..	..	8
5-10 years at sea	..	..	..	..	10
11 years and more	..	..	..	..	9
"LIGHT" (21) Total					
Less than 5 years at sea	..	..	..	..	9
5-10 years at sea	..	..	..	..	6
11 years and more	..	..	..	..	6
"TEETOTALLER" (1) Total					
Less than 5 years at sea	..	..	..	..	1
2. (51) Total			(49) Total		
"V. HEAVY" AND "HEAVY" compared with			"MODERATE", "LIGHT" AND TEETOTAL		
0-10 years at sea	..	24	33		
11 years and more	..	27	16		

DISCUSSION

Age (Table I)

Less than 25 per cent of the seamen were beyond their mid-thirties. Most, therefore, had not yet reached the age at which alcoholism in this country is generally diagnosed. Thus the age-groups between 40 and 45 years were the numerically strongest ones among alcoholics admitted to the alcoholic unit at Warlingham Park Hospital (Glatt, 1955a) and to a London Observation Ward (Glatt, 1955b), and among those observed in a London Reception Centre (Glatt-Whiteley, 1956). The development of alcoholism extends, however, over a great many years. Premonitory and early signs of alcoholism had appeared among most alcoholic patients of Warlingham Park Hospital when still in their early thirties (Glatt, 1960). Thus if there were potential alcoholics among these seamen, certain signs could reasonably be expected to be present, even in these younger age-groups.

Marital Status (Table I)

Approximately half were single, a somewhat smaller percentage than among Powdermaker's American seamen. However, almost half of these seamen were still below their mid-twenties.

Nature of drink (Table I)

Beer was favoured by the great majority. Spirit drinkers were relatively more common among officers than among the crew. This may be partly due to the fact that on board ship spirits were easily available to the officers only, but it also corresponds to the findings of the Hulton Leadership Survey (1948) that spirit drinking was relatively more popular with the higher than with the lower income groups.

The seamen's sample contained only one teetotaller. Two alcoholic seamen who, after treatment at Warlingham Park Hospital, returned to the sea likewise found themselves to be the only teetotallers on their ships. The proportion of teetotallers among the adult male population of Britain amounts to one in five (Zweig, 1948).

Amount of drink consumed (Table II)

We arbitrarily classified

- as "very heavy" drinkers those who consumed 11 or more pints of beer daily or 6 or more doubles of spirits daily;
- as "heavy" drinkers those who consumed 6-10 pints of beer daily or 3-5 doubles of spirits daily;
- as "moderate" drinkers those who consumed 3-5 pints of beer daily (no spirit drinkers);
- as "light" drinkers those who consumed 1-2 pints daily (no spirit drinkers).

Nearly all beer drinkers also took occasionally or regularly spirits. They were all daily drinkers except for short periods when on the wagon. The amount of drink taken at sea and on shore varied from seaman to seaman. Most varied little from sea to shore, though some drank more heavily at sea and others on shore. Those holding responsible jobs on the ship, e.g., quartermaster or on the bridge, drank moderately lightly or were "on the wagon" whilst at sea, but sometimes had "sessions" when ashore.

The availability of supply of alcohol varies on ships belonging to different

companies and seamen who occasionally sail on a "dry" ship have an enforced period "on the wagon".

Seamen in special occupations at sea, e.g., barmen or lounge stewards, have the added temptation of alcohol being constantly and readily available throughout the day.

Corresponding to Powdermaker's findings among American seamen, heavy drinking was more common (to a statistically significant degree) among veteran seamen than among more recent recruits. Thus among those at sea 10 years and less there were three moderate or light drinkers for every 2 heavy and very heavy ones, but hardly more than 1 "moderate" among the veterans who had been at sea 10 years or longer.

Frequency of drinking

In contrast to the daily drinking of the 99 seamen are findings reported by Zweig that about two-thirds of the British beer drinkers and 90 per cent. of the spirit drinkers only take alcohol once a week. No more than 15 per cent. of the British beer drinkers (and less than 4 per cent. among the spirit drinkers) were "regulars", i.e., daily drinkers, consuming between 4 and 10 pints per day. Among the present sample of merchant seamen half consumed more than five pints of beer or three double whiskies per day.

The average merchant seaman thus seems to consume alcohol more regularly and in greater amounts than non-seamen. It is of course well known that in regard to the risk of the prevalence of alcoholism in a certain group of people, other factors are involved besides the amount of alcohol consumed; e.g., among Jews there are few abstainers but at the same time very few alcoholics (Snyder, 1958), whereas other religious groups with a considerable proportion of abstainers may yet show a great percentage of alcoholics. Yet by and large—other factors being equal—the risk of alcoholism can be reasonably expected to be greater with the regular heavy consumption of alcohol than otherwise. The etiology of alcohol "addiction" is not yet clear, but, on the other hand, the daily consumption of large amounts of alcohol over years—becoming more severe on the whole the longer the seaman remains at sea (perhaps partly due to the increase in tolerance), may perhaps be compared to conditions as discussed by Jellinek (1958) in the case of the French drinkers: "There can be little doubt that the consumption of amounts of three litres of wine upwards per day, over 15 or 20 years, cannot be handled by the organism without much impairment of metabolic and nervous functions which can be classed as aspects of 'chronic' alcoholism."

Other factors being equal, one might expect that spirit drinking might lead to alcoholism more rapidly and more frequently than beer drinking, yet there is, of course, no doubt that pure wine-drinking or beer-drinking by themselves can also lead to alcoholism. Thus among 13 cases of alcoholic cardiomyopathy recently studied by Brigden (1957), seven occurred in people who had drunk beer only (averaging 10 pints a day for 10 to 40 years), though symptoms and signs of heart disease had appeared earlier and were more severe in the six spirit drinkers (1 or more bottles of spirit a day for 10 to 20 years).

It may be of some interest here to note that according to the Expert Committee on Alcohol and Alcoholism (1955), the prevalent form of alcoholism varies between the predominantly spirit-drinking and the predominantly beer-drinking countries or social groups. In wine-drinking and some of the beer-drinking countries, the prevalent form of alcoholism is characterized by the "inability to stop", the drinker being unable to withstand any, even short

periods of abstinence, without losing the ability to regulate his alcoholic intake or necessarily getting drunk. In countries or social groups, on the other hand, that predominantly consume spirits, the prevalent form of alcoholism is characterized by the loss of control once a particular drinking bout has been started: the drinker only stops when he either becomes too sick or too drunk to consume more alcohol.

Jellinek points out that many French drinkers suffer from some aspect of chronic alcoholism without ever having shown intoxication or behaviour characteristic of "addictive" (i.e. loss of control) drinking. One may wonder whether the same may possibly be true of the seaman, who may never show "loss of control". Similar considerations may perhaps also apply in this country to other occupations or groups where regular heavy drinking is the custom, such as publicans, barmen, and perhaps some expense-account drinkers.

Certain other theories of Jellinek (1958) may have some bearing on our discussion. It certainly seems that among seamen heavy drinking, drunkenness and certain drinking behaviours ordinarily frowned upon, are regarded as commonplace enough not to arouse censure, ostracism, or very much attention. In Jellinek's view, it can be expected that in groups, countries or cultures where heavy drinking is socially accepted, relatively "normal" and not very "vulnerable" people may become alcoholics. In groups, on the other hand, where heavy drinking and drunkenness is very much frowned upon, in the main relatively unstable and "vulnerable" persons will become alcoholics. However, Jellinek stresses that though "habit" and social acceptance of heavy drinking are facilitating factors, they do not account for the whole phenomenon, and a small degree of psychological vulnerability is needed even among the members of such groups to trigger off alcoholism. In countries with social acceptance of heavy drinking "largely—but by no means exclusively" psychologically highly vulnerable people will be exposed to the risk of alcoholism.

Jellinek includes the Anglo-Saxon countries among those with a low acceptance of heavy drinking. In this country, seamen and the other groups named above seem, however, to constitute exceptions in this respect. Thus it might perhaps be expected that among seamen, with their regular and accepted heavy drinking habits, even individuals with few neurotic or psychopathic traits may fall victims to alcoholism in one of its various forms, though not necessarily to alcohol "addiction".

Apart from a few frank psychotics, among large samples of alcoholics taken at random, one usually finds psychopathic, neurotic and relatively "normal" types of personalities in varying proportions, depending in the main on the origin of the particular sample studied. On the basis of clinical impression, interview and information obtained from the men themselves, it was estimated that neurotic and "psychopathic" traits were relatively common in the present sample. Thus 44 gave a history of marked neurotic traits in childhood and 21 had been in trouble with the law for offences other than being drunk and disorderly, and not connected with drinking. The risk of alcoholism supervening on heavy drinking may be expected to be greater in such "vulnerable" personalities than in the relatively stable individual.

In this connection one has, however, to remember that to some extent the "psychopathic" or antisocial behaviour may not have been characteristic of the pre-alcoholic personality but may have become superimposed as a consequence of many years' heavy drinking. On the other hand, perhaps the desire to go to sea in some ways resembles the tendency to escape from reality and frustration which is so common a finding in alcoholics. Very often, too, alcoholics are

restless individuals who, though often very able, lack staying power. In the present sample (Table III), only one-sixth mentioned the desire to travel and similar factors as the main reason for their decision to go to sea. Powdermaker found that one-fifth of his sample of American merchant seamen gave as reason their wish to escape from home and responsibility and he felt that seamen chose going to sea because they could thus avoid loneliness, responsibilities and close emotional ties which are intolerable to them. Heath stated that most seamen went to sea to escape the rigours of life ashore, and he felt that in seamen the occupation fulfilled much the same function as alcohol.

TABLE III
Reasons Given for Going to Sea

	21 "Light" Drinkers	27 "Moderate" Drinkers	25 "Heavy" Drinkers	26 "Very Heavy" Drinkers
"Family" ..	38: 7	11	7	13
"Travel" ..	16: 5	4	6	1
"Other reasons"	45: 9	12	12	12
	1: Teetotal. ("Other reasons" given.)			
	100:			

One could perhaps mention certain other points of similarity between seamen and alcoholics. The alcoholic is often a dependent person, e.g., he often likes to lean on a stronger and sometimes older wife, and he does well in the security and shelter of a hospital where everything is taken care of. The seaman too finds shelter and security in his ship; he has not got to worry over items such as food, clothing and accommodation. The comment of an alcoholic businessman, who after treatment at Warlingham Park Hospital chose to go to sea, may be of some interest in this connection. This man had been warned by other members of the alcoholic group, including seamen, against going to sea because of the continual temptation to drink. Having been at sea for several months, he wrote in a letter to the group magazine (Whaakey-Whaakey, 1956): "... it is easy to remain dry in an 'institution' because of a feeling of protection and therefore freedom from worry . . . A ship is, in fact, a floating institution, and I feel . . . that no one can get at me to worry me . . ." One could furthermore suspect that in certain alcoholics, as well as certain seamen, a yearning to escape from a boring humdrum and routine existence, a search for an exciting form of escapism may have carried the former into excessive drinking, the other to the sea. There may perhaps also be a relatively high incidence among seamen of factors such as psychosexual immaturity and instability, held by some analysts to be points of major importance in the genesis of alcoholism.

It follows from the foregoing discussion that not only does the seaman's heavy drinking carry with it a greater risk of alcoholism than is present in the average population, but that moreover, because of a possibly higher incidence of a psychological vulnerability, there is a greater than average risk of taking an escape route such as excessive drinking. This may be enhanced by factors such as the lack of facilities for recreation or suitable companionship, etc. aboard or ashore, and by the lack of other interests. A few may have indeed gone to sea because of the opportunities for drinking, free from irksome restrictions and supervision present at home. Work in a hot and dry atmosphere and the ready availability of alcohol may also act as additional incentives to drinking.

Drinking Histories

The drinking histories of alcoholics contain certain very frequently recurrent events (Jellinek, 1952). Their occurrence may provide an early pointer to the possibility of later development of alcoholism. The present sample of seamen were therefore interviewed with regard to certain of these events (Table IV).

TABLE IV
Certain Features in Drinking Histories

	21 "Light" Drinkers	27 "Moderate" Drinkers	25 "Heavy" Drinkers	26 "Very Heavy" Drinkers
	1 (T.T.)	—	—	—
(a) Age at first drink: Below 15 years ..	3	3	—	5
15-20 years ..	15	22	22	21
21 plus ..	3	2	3	—
<i>"Features":</i>				
(b) Gulps drinks ..	0	3	4	10
More efficient after drink ..	8	14	9	15
Helps associate with people ..	16	22	22	20
Needs more drink to achieve same effect	2	4	11	14
Tolerates less drink than before ..	3	7	3	4
Pulling a blank ..	5	9	3	9
Early morning drinkers ..	0	1	3	11
Solitary drinking ..	4	18	13	16
Fits after drinking ..	0	0	0	0
Shakes and tremors ..	3	3	9	15
D.T.s ..	0	0	0	2
Makes sure drink handy ..	1	3	7	7
Other drugs ..	0	0	0	2
Periods on the wagon ..	6	15	13	10
(c) Early morning drink "appeals" ..	2	8	8	17
" " " "appals" ..	7	9	7	4
" " " "indifferent" ..	10	10	10	5

Most seamen had taken their first drink when between 15 and 20 years of age. This corresponds to findings among both alcoholics (Glatt, 1955) and social drinkers (Glatt, 1960) in this country. Table IV, however, raises the question whether very heavy drinkers began to drink earlier in life. Thus among "light" drinkers, 13 seamen had started to drink up to the age of 17, 8 later on; among the "very heavy" drinkers the respective proportions were 23 against 3.

The great majority of these seamen had experienced their first drunkenness episode between the ages of 15 and 20. This again corresponds in the main with the findings in English alcoholics and social drinkers.

In Jellinek's Chart of Alcohol Addiction an increase of alcohol tolerance in the pre-alcoholic symptomatic phase is followed by the prodromal phase containing features such as alcoholic amnesias with "medium" intake of alcohol, secret drinking, preoccupation with alcohol, gulping of drinks and guilt feelings about drinking.

As seen from the Table, such occurrences were not too uncommon among the seamen, as were also certain other features which ordinarily are only seen in the more advanced stages of alcoholism, such as solitary and early morning drinking, uncontrollable tremors, and decrease in alcohol tolerance.

In Jellinek's view, symptoms such as frequent alcoholic amnesias, surreptitious drinking, avid drinking "foreshadow the development of alcohol addiction". Such features may occasionally also be seen among non-alcoholic drinkers, as e.g., amnesias and gulping of drinks (Roe, Glatt, 1960). However, it must surely be ominous if a number of features usually regarded as prodromal or as essential features of alcoholism occur in one and the same individual. Thus, of the 30 seamen who had at some time or another experienced severe shakes or tremors after drinking, there were eight who also had had alcoholic amnesias, had started solitary drinking and experienced an increase in alcohol tolerance. All these 8 were predominantly beer drinkers, 6 among them also consuming spirits. Of these 8, 5 also drank first thing in the morning ("Eye openers", referred to by seamen as "Curers"). Of the 7 heavy or very heavy drinkers who reported a decrease in tolerance to alcohol, 4 also had experienced severe tremors, 2 of the latter also alcoholic amnesias. A combination of symptoms such as in five members of the first mentioned group and in 2 in the second would certainly arouse at least a grave suspicion that these seamen were well on the road to alcoholism. Early morning drinking is generally considered to be an ominous sign and it is perhaps noteworthy that with one exception, all these early morning drinkers fell into the "heavy" or "very heavy" class of drinkers.

Among the group of "social drinkers" studied (Glatt, 1960) only 6 among 80 men had in the past taken an early morning drink, as compared with 86 per cent. among alcoholic patients of Warlingham Park Hospital. Drinking first thing in the morning after is generally a prospect that "appals" the ordinary social drinker, as it did a certain number of these seamen. Yet quite apart from those who had actually taken early morning drink, an additional number found the prospect definitely "appealing", which again points to the acceptance of heavy drinking among seamen.

"Solitary" drinking is another feature generally regarded as an ill omen. It only occurred in the history of 3 of the "social" drinkers investigated in the past, as against 75 per cent. of male alcoholics. Solitary drinking was very common among these seamen, being reported by approximately half of them. It occurred, however, also frequently among light and moderate drinkers, and for several reasons peculiar to the occupation in the case of seafarers this feature possibly does not carry the sinister connotation ordinarily ascribed to it (e.g., drink is always available in the cabin). Similar considerations may hold good for "going on the waggon", a very common occurrence among alcoholics (e.g., it was reported by 80 per cent. of the Warlingham Park Hospital alcoholics), who from time to time have temporary periods of complete abstinence, in an effort to stem the progressively heavy and destructive tide of their drinking.

Fits after drinking (not occurring among the seamen), D.T.s (reported by two seamen), and "protecting supply of liquor" are other not very infrequent happenings among alcoholics. "Protecting supply" was reported by 18 seamen, chiefly among the heavily drinking ones. In the history of the W.P.H. alcoholics this feature was reported in 55 per cent. Here again the special conditions may make this of less prognostic importance in the case of seamen as drink is always at hand and easily obtainable and no special "protection" device may be necessary.

Alcoholics often state that in their early history drink gave them a feeling of greater efficiency or helped them to mix better with people. Among the Warlingham Park Hospital alcoholics almost all had felt in the past that

drinking helped them in "mixing"; about 3 in 4 also felt more efficient. Among social drinkers 26 in 80 felt they "mixed" better; only 5 felt "more efficient". If one believes in the important rôle of psychological factors in the causation of at least a great proportion of cases of alcoholism, the finding that so many seamen feel that somehow or other alcohol helps them to establish interpersonal relationships or carry out their work, may perhaps be of some significance, both in regard to the tendency to drink and the "psychological vulnerability" of seamen to the effects of alcohol.

When comparing certain drinking behaviours in light, heavy drinkers, etc., some points may be of interest. As expected among the "light" drinkers, early morning drinking appealed least, and did, in fact, never happen. Among the "very heavy" drinkers these features were common; the "moderate" and the "heavy" drinkers ranked in between. The difference between the "light" plus "moderate" drinkers on the one hand and the "very heavy" drinkers is statistically significant in regard to "early morning drink appeal" and to taking early morning drink (at 1 per cent. level).

Compared to the light and moderate drinkers, among the very heavy drinkers (omitting the "heavy" group), gulping drinks was relatively more frequent (difference statistically significant at 1 per cent. level) as was increase in tolerance (statistically significant at 1 per cent. level), early morning drinking (statistically significant at 1 per cent. level), tremors (statistically significant at 1 per cent. level), and ensuring supply of drink (not significant). The only instances of D.T. (and of taking other drugs as well) occurred among the very heavy drinkers. On the other hand, there seemed to be little difference in regard to the decrease in tolerance, the occurrence of amnesias, and the periods "on the wagon".

As far as the "personality" aspect is concerned, 9 had shown definite neurotic childhood traits and had also been in trouble with the law for offences other than merely being drunk and disorderly. Of these 9 "offender-neurotics", 6 were very heavy and 2 were heavy drinkers. This proportion is much higher (to a statistically significant degree—5 per cent. level) than the proportion of heavy and very heavy drinkers among the rest, and it bears out the influence of "personality" in regard to the tendency to excessive drinking among seamen, quite apart from the merely "occupational" hazard.

The same conclusion is reached when finally one considers the number of seamen who neither reported childhood neurotic traits nor had been in any trouble with the law. It can be assumed that the 45 men falling under this heading are the psychologically most stable contingent among the present material. Among these, 15 were heavy and 9 very heavy drinkers. The proportion of very heavy drinkers is statistically significantly different (at the 5 per cent. level) from the "offender-neurotic" group. On the other hand, however, amongst the heavy and very heavy drinkers in this originally relatively "normal" group of seamen, there were 8 with a history of severe tremors; of whom 5 were drinking solitarily, 3 were drinking first thing in the morning and 2 had experienced alcoholic amnesias. Thus, even among the originally "normal" personality type, quite a few showed signs indicative of developing alcoholism which in these cases may have as its main origin the "occupational hazard" rather than personality vulnerability. One could, of course, also argue that the finding that only a certain proportion of these men, who all had been exposed to the same occupational hazard, show early indications of alcoholism, shows a certain "psychological vulnerability" even among these men; an argument which Jellinek brings forth in support of his theory that even in

countries with wide acceptance of heavy alcohol intake "a certain psychological deficiency" may be responsible for the heavy drinking of a small minority.

Finally, *what type of alcoholism* could be expected among these seamen? As already pointed out, there is a risk of the development of complications denoting "chronic alcoholism". One must, however, keep in mind that nowadays nutritional deficiency is regarded as chiefly responsible for the development of the "complications" of alcoholism, rather than the toxic effects of alcohol itself. In the case of the seaman the good food—rich in proteins and vitamins—may therefore be expected to some extent to militate against the development of such complications in the drinking seaman. Predominance of beer drinking among these seamen, in particular among the crew, rather than spirit drinking, might possibly indicate the relatively greater risk of the type of alcoholism of the "inability to stop drinking" rather than of the "loss of control" type, comparable to the "inveterate drinker" type of the predominantly wine-drinking countries (Jellinek, 1958). In fact, "loss of control"—the hallmark of alcohol "addiction"—was not observed nor reported by these men, except during prolonged drinking "sessions". It is, of course, possible that later on "loss of control" may yet develop. However, many of these men had been drinking heavily for many years and have shown some "pre-alcoholic" or early alcoholic features for years. According to Jellinek (1952), if the "loss of control" has not set in after 10 or 12 years of heavy drinking, while the "prodromal symptoms" were persistent and amnesias rare and not occurring after medium alcohol intake, it is "rather safe" to diagnose "non-addictive" alcoholism. In contrast to the "addictive alcoholic" "the 'non-addictive alcoholic' can avoid drunken behaviour whenever the social situation requires it", so that there is a lesser danger of social repercussions. However ". . . there is the same tendency towards isolation as in the addict, . . . Even D.T. may develop . . . Generally, there is a tendency towards a progressive dominance of alcohol resulting in greater psychological and bodily effects".

The danger that even in the originally fairly stable personality habitual alcoholic excess may bring in its wake serious personality deterioration and consequences such as loss of efficiency, greater risk of accidents and errors in judgment, and of V.D., must not be lost sight of, even if the risk that ". . . a non-addictive drinker may slide to the bottom of society" is naturally greater "in the presence of grave underlying psychopathies".

The impression that seamen by and large are heavy drinkers is borne out by the findings of the present study which may be compared with another study of alcoholism in Swedish merchant seamen. In a paper read at the 26th International Congress of Alcohol and Alcoholism in Stockholm, A. Otterland (Congress abstract, 1960, page 206) reported that alcohol presented a serious problem among merchant seafarers in Sweden. 3.6 per cent. of Swedish seamen were chronic alcohol addicts when they first signed on and 18.3 per cent. when they last signed on. The high mortality rate from violent causes in seafarers in Sweden was considered to be largely due to the drinking habits. Acute alcohol intoxication was not seldom the cause of accidents on ships. Death from accidents and from suicide were not uncommon and of the men who committed suicide 55.5 per cent. were intoxicated on the day of their death, and among fatal accidents 37.2 per cent. Heavy drinking seems a much more regular and accepted social habit and "pastime" among seafarers than among the ordinary population. This impression is also supported by seamen's replies to the question as to the amount of their drinking. The usual reply is: "moderate" or "average". When this question is gone into in more detail, it

generally emerges that the seaman's idea of "moderate" drinking was 10 to 12 pints of beer per day or one bottle of spirits. A similar picture emerges from the reports of a few wives of seamen seen at outpatient clinics and questioned about their husbands' drinking habits. A recent newspaper story featured an ex-seaman's claim that he had occasionally drunk up to 10 bottles of spirit per day, a claim which the magistrate found "extremely difficult to accept".

Under these circumstances it seems likely that before a seaman is regarded by his fellow seamen (and by himself) as an "alcoholic", he would have to develop marked and definite physical or mental complications, a feature naturally militating against early diagnosis.

Alcoholism could therefore be expected to be a greater risk among seamen than among the ordinary population. This expectation is supported by the frequent findings that seamen are not rare among alcoholics observed in hospitals and outpatient clinics looking after this type of patient. Thus, among 500 alcoholics admitted to Warlingham Park Hospital between 1952 and 1958, there were nearly 20 seamen.

In spite of obvious objections, liver cirrhosis is often regarded as the best among several unsatisfactory indicators of the prevalence of alcoholism (W.H.O., 1951). In a London seamen's hospital 10 cases of alcoholic liver cirrhosis were observed in the five-year period between 1954 and 1959 (2 of these men died). The mortality among seamen from liver cirrhosis in England and Wales in the years 1949/53 appears to have been about double that of the general male population though it is still less than a quarter of that in publicans and no more than two-fifths of that in barmen. (Registrar-General.)

In view of this risk of alcoholism among seamen, is there anything that could be done to minimize such a danger? For *prophylaxis* as well as for early diagnosis and treatment, a greater awareness of the problem is important, both on the part of the men, the employers and ship surgeons. Greater awareness and better education as to the risks, the early symptoms and the possibility of successful treatment will lead to a more constructive attitude. Other factors, such as the provision of alternative methods and facilities for recreation on board and ashore (e.g. seamen's clubs), and of alternative non-alcoholic beverages, may all be worth trying. Some ships do not carry alcoholic drinks, but it seems doubtful whether this lack is not more than compensated by terrific "benders" when the seaman sets foot ashore. This impression was confirmed in a subsequent journey made by one of us (H.K.R.) on a ship in which alcoholic drink for the crew was severely restricted by order. The crew made up for this ashore and because of the heavy drinking which occurred in various ports, the Captain in self-defence, refused shore leave for the crew in several of these ports.

As to early diagnosis, continual observation possible in the Merchant Navy offers an opportunity to spot the potential or early alcoholic possibly many years before alcoholism has become firmly established. A ship's surgeon conversant with the early stages of the condition may thus be in a position to discuss matters with the seaman and where necessary to encourage him to seek treatment at an early phase, and perhaps later on to keep in touch with A.A. groups.

As to the question of *treatment*, there is no doubt that alcoholic seamen can "recover", even after many years of heavy drinking. This is illustrated, e.g., by a number of cases recently treated at Warlingham Park Hospital, as, e.g., by that of a 1st officer who after treatment returned to sea, regularly attended A.A. meetings at each port, and remained a faithful and regular contributor to

the magazine of the hospital alcoholic group until his death from a malignant disease.

American observers (Heath, 1945) found group therapy and A.A. (J.I.F., 1947) helpful for alcoholic seamen; groups were set up in a rest centre, and an A.A. group was formed, the so-called "A.A. Seamen's Club", with a programme copied closely from A.A. but exclusively for seamen. Such procedures were "often achieving results" (Heath) and were responsible for a programme of rehabilitation and education (J.I.P., 1947). A.A. of course can be of the greatest value to the seaman who wants to stay sober by providing him like other "loners" with an opportunity to stay in correspondence with other members, and easily to make contacts with non-drinking friends wherever his journey may take him. Certainly the therapeutic regime for alcoholics at Warlingham Park Hospital of community living, group psychotherapy, introduction to A.A., supplemented by drug therapy, e.g., Disulfiram (Glatt, 1955), was found to be as popular and frequently successful with alcoholic seamen as with other alcoholics.

CONCLUSIONS

Heavy drinking is common among merchant seamen, and drinking behaviours which may arouse unfavourable comment otherwise are not infrequent and "accepted" as normal. The risk of alcoholism seems therefore to be a greater hazard than with most other occupations, the more so perhaps as the personalities of many seamen show a number of personality traits often found also in alcoholics. In view of this occupational hazard a programme directed at education, prophylaxis and early diagnosis seems called for. In contrast to most other occupations the opportunity of observing prodromal and early symptoms, perhaps years before alcoholism becomes fully established, seems to offer a good opportunity for early diagnosis. Like other alcoholics, so also those who are merchant seamen, can recover in particular when treatment and after-care is carried out in collaboration with A.A.

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