

COMMISSION OF THE EUROPEAN COMMUNITIES

medicine

Seminar of the medico-social risks of alcohol consumption

Luxembourg, 16, 17 and 18 November 1977

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

medicine

Seminar of the medico-social risks of alcohol consumption

Luxembourg, 16, 17 and 18 November 1977
in collaboration with the International Council
on Alcohol and Addictions

This workshop has been organized with the support of:
A.E. BAERT, J. GODARD, P. HENTZ, H. LAVERRÉ, R.E. MOORE, N.M. RATHOD,
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WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

Directorate-General 'Employment and Social Affairs'

Published by the
COMMISSION OF THE EUROPEAN COMMUNITIES
Directorate-General
'Scientific and Technical Information and Information Management'
Bâtiment Jean Monnet
LUXEMBOURG

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This publication is also available in the following languages:

DE ISBN 92-825-0923-0
FR ISBN 92-825-0925-7

Cataloguing data can be found at the end of this volume

© ECSC-EEC-EAEC, Brussels-Luxembourg, 1979

Printed in Luxembourg

ISBN 92-825-0924-9

Catalogue number: CD-NJ-78-004-EN-C

Table of contents

16 November 1977

OPENING SESSION

- Opening Speeches by

- Dr P. Recht, Unclassified Adviser
Director, Commission of the European Communities 7
- Dr M. Postiglione, M.D. Chief, Disease, Prevention and Control
- World Health Organization - Regional Office for Europe,
Copenhagen 11

FIRST SESSION

General assessment of risks
Chairman; Prof. D. Bovet, Nobel Prize for Medicine 15

- Physiological aspects and biology 17
Dr J.P. von Wartburg, Dr Margret M. Ris (Bern) 17
- Epidemiological aspects 33
Dr G. Pequinot (Paris) 33

Discussion 43

- Psychological aspects 45
Dr N. Kessel (Manchester) 45
Dr W. Feuerlein (München) 49
Dr P. Fouquet (Paris) 53

Discussion 59

- Sociological aspects 61
Dr K. Mäkelä (Helsinki) 61
Miss L. Voyé (Louvain) 69
Dr R. De Vita (Firenze) 75

Discussion 83

- Appendice: Anti-alcohol measures in the working environment 85
Dr J. Niveau (Freyning - Merlebach) 85

17 November 1977

SECOND SESSION

Compiling of information on risks	99.
Chairman: R.E. Moore	99
- Alcohol consumption in Europe and its consequences	101
Dr J. Godard, Paris	101
- Specific situations:	115
Belgium	: Dr M. Verbanck, I. Pelc, G. Stoffels (Bruxelles) 115
Denmark	: Dr P. Schiøler (Copenhagen) 123
Germany	: Mr W. Holzgreve (Hamm) 126
Ireland	: Dr J.G. Cooney (Dublin) 130
Italy	: Dr G. Bonfiglio (Rome) 133
Luxembourg	: Dr F. Kasel (Luxembourg) 136
Netherlands	: Mr M.J. Maas (Utrecht) 141
United Kingdom	: Mr D. Rutherford (London) 145
Discussion	161
- <u>Problems of terminology and compiling of information</u>	163
Miss E.M. Brooke (Lausanne)	163
Dr F. Bertini (Turin)	173
Dr J. De Lint (Amsterdam)	178
Dr P. Fouquet (Paris)	186
General Discussion	188

18 November 1977

THIRD SESSION

Definition of the risks	189
Chairman: Mr A. Tongue	189
- Definition of the risks	191
Dr J. Casselman (Louvain)	191
Mr J. Trillat (Paris)	197
- The control of alcohol availability	201
Dr J. De Lint (Amsterdam)	201
- A discussion of the risks related to alcohol use	207
Dr P. Schiøler (Copenhagen)	207
General discussion and recommendations	213
List of participants	217

16 November, 1977

OPENING SESSION

Opening speeches by Dr P. Recht and Dr M. Postiglione

OPENING SPEECH

P. Recht

Ladies and gentlemen,

We are very pleased to welcome you to Luxembourg for this seminar on an important and ever-topical subject, with which, however, the Commission of the European Communities has only recently begun to deal.

The Commission's function is to encourage cooperation in a large number of fields which relate to occupational health and hygiene, radiation protection, toxicology and, in a general manner, the environment and the quality of life in industrialized societies.

As regards the final point we will adopt an analytical approach which is based mainly on an objective assessment of the risks and a measurement of dose/effect relationships, using methods which the WHO has been proposing for several years. This approach can also be applied to other social diseases or problems; accordingly, at the meetings we organized with a view to preparing this seminar, the participants recognized the necessity of discussing together the medico-social risks associated with alcohol consumption.

What are the factors which must be taken into consideration in the Community? How can they be quantified? How are methods of prevention, detection or treatment to be implemented? These are the main problems which were borne in mind when organizing this seminar.

The problem of alcoholism is by no means a recent one - indeed the term alcoholism itself was coined in 1837 by the Swede Mathias Huss and relates to a period during which alcohol consumption was largely confined to under-privileged social classes and mainly involved spirits, at least in Sweden.

Since then the conditions and characteristics of alcohol consumption have changed, but nevertheless, in terms of litres of pure alcohol per head of the population, consumption in the Member States of the Community ranges from 6 - 16.8 litres. In the following five countries consumption is less than 10 litres: Ireland (6.5), the Netherlands (7), the United Kingdom (7), Denmark (8) and Belgium (9). As for the countries where consumption is more than 10 litres, these are: the Federal Republic of Germany (11), Luxembourg (11.5), Italy (13.6) and France (16.8). The only country which has recently seen a decrease is France, where consumption has fallen from 17.2 to 16.8.

In overall and absolute terms these figures indicate that the problem is still a serious and large-scale one.

What conclusions can be drawn from the expression of consumption in terms of litres of pure alcohol, other than the fact that total consumption has been

increasing in most countries for 22 years and is therefore likely to give rise to very serious problems? These problems are all the more pressing when one considers those groups which are particularly exposed (risk groups), for example young people and women.

We did not wish to tackle a problem of such importance at European level without the aid of the WHO and consequently I am very pleased to welcome Messrs Postiglione and Baert, who represent this organisation. Any Community action programme should deal with the same subjects as are of concern to the WHO and it is certain that the Community is particularly well placed to promote a pilot project dealing with alcohol consumption and investigating either its epidemiology or the motives behind such consumption.

Furthermore, we are greatly honoured by the presence of Prof. Daniel Bovet, Nobel Prize-winner for medicine, who agreed to take part in our work and to chair the first meeting and whom I should like to thank most warmly. Prof. Bovet is an eminent pharmacologist whose work, competence and discoveries are well known to us. His participation in this initial meeting should ensure that our discussion will develop in a scientific context and that the principles of objectivity and rational discourse will be respected.

It is a fact that the problems associated with alcohol consumption are seen in an emotional subjective light that varies with the country and milieu in question. Thus, people sometimes adopt embarrassed attitudes towards alcohol dependence and this has impeded the search for solutions aimed at reducing the human costs of alcohol-induced illness and disablement.

The Council of Health Ministers, which will be holding its first meeting in Brussels in a few weeks time, has included on its agenda the very important topic of health education. The two problems to be dealt with are smoking and nutrition, but what I believe must be stressed is that the Ministers consider that health education is a decisive factor in directing national and international initiatives towards the search for improved health.

In this respect, voluntary bodies which deal with alcohol problems have been playing an important role for many years.

We have invited the International Council on Alcohol and Addictions to take part in our meeting. It is represented by Mr. Tongue, who has from the very beginning shown a lively interest in the questions on the agenda and has actively participated in preparing the meeting. I should also like to thank him for bringing us the support of a non-governmental organization whose main task is the promotion of health education.

Our task is a difficult and complex one.

As regards the European Communities, I should like to point out the existence of a Committee on Medical Research and Public Health; this Committee could help us implement a concerted research programme in the field of alcoholism, both with respect to epidemiology and pharmacodynamics.

I would like to conclude my introduction at this stage, so as not to delay further the papers we are about to hear and the exchanges of opinion which are to follow.

In the course of the discussion, it is possible that the opinions advanced and the contributions made may cover a widely diverging range of subjects. However, this is only our first meeting and the welcome it has received shows that all of you, whatever your particular specialization or responsibilities, share the same concerns and the same conviction as regards the medicò-social significance of alcohol consumption within the Community.

I wish the seminar every success. I am certain that the conclusions arrived at will be of great use in our future work and I declare the meeting open.

OPENING SPEECH

M. Postiglione

Dr Recht, Professor Bovet, dear colleagues, on behalf on Dr Leo A. Kaprio, Regional Director of the Regional Office for Europe of the World Health Organization in Copenhagen, I am very happy to extend to you his best wishes. Dr Kaprio is, unfortunately, unable to be present in person and has given me the honour of representing him.

I propose, with your permission, to tell you a few things about the work of the Regional Office for Europe so that the discussions which are to take place at this meeting may be placed in their right perspective insofar as they concern WHO. Some of you, who are our collaborators, are already familiar with our work, and I hope the rest of you may find this briefing useful and informative.

The European Region of WHO extends from Greenland in the West to Vladivostok in the East, and from the North Pole to North Africa. By North Africa I mean the countries of Algeria and Morocco. The Region has 32 Member countries with a population of approximately 800 million. The range of problems with which we have to deal from the public health point of view, extend from those of the economically affluent countries to those countries which are striving to achieve economic development. This means that, in the central part of Europe, the main problems are related particularly to chronic degenerative diseases; the main killers are cancer, cardiovascular diseases and road traffic accidents; chronic disabilities are caused by chronic lung diseases, rheumatic diseases, diabetes and so on. In addition, communicable diseases which were erroneously thought to have been eradicated or to have decreased in the European Region are, unfortunately, again becoming frequent due to the heavy tourist traffic, the intense migratory movement within the Region, and the ever-increasing traffic in goods and in animal food. For example, rabies is a problem which concerns central Europe very much at the present time. Among the other communicable diseases of importance, I could mention sexually transmitted diseases as well as cholera, the latter of which made dramatic appearances in the Mediterranean area not long ago.

In addition to dealing direct with each of the 32 Member States where, usually, the Minister of Health is our contact, the Regional Office maintains very close collaboration with organizations such as the Commission of European Communities (CEC), the Council of Europe (COE), the Council of Mutual Economic Assistance (CMEA), and the Nordic Council, as well as with non-governmental and international professional organizations.

The main medium-term programmes of the Regional Office are four, namely, mental health, cardiovascular diseases, health manpower development, and promotion of environmental health. These programmes have been developed at the request of the Regional Committee for Europe which meets annually, with government representatives from all our Member States, and which is our governing body at regional level. New programmes of global importance have been entrusted to our Office, namely, health care of the elderly and the prevention of road traffic accidents.

The programme in mental health has now been going on for approximately 10 years and is relevant to this conference. Dr Baert, here with us now, is the Officer responsible for it. The main aim of the programme is to cooperate with Member States in the establishment of comprehensive community mental health programmes, with emphasis on prevention, integrated in the general health services and adapted to the local prevailing social, economic, cultural and administrative situations. The programme has four main areas; one deals with the organization of mental health services. (We have already published a booklet on Mental Health Services in Europe.) We have also established pilot study areas in a number of European countries to work out a methodology for the collection of information and the organization of services. One area covers child and adolescent mental health, including aspects of mental retardation; another area includes activities related to education and training and the fourth area deals with problems of alcohol and drug dependence.

Our activities are carried out to a certain extent through country projects (of which there are very few) but mostly through inter-country projects. These are implemented by means of studies and meetings, the results of which are reported in various types of publications. Studies may last for a number of years depending on the objectives, while meetings are of two types. First, we have working groups, composed of 10 to 12 experts. They are selected for their own individual experience and knowledge of a specific subject and do not represent any government or institute. The results of such meetings are usually given in reports which are expected to be objective, unbiased, technical statements. Working groups, which may be considered as Regional Expert Committees, may lead to large conferences. The latter, to which we invite the governments of all our Member States to nominate 1 or 2 participants, represent an ideal opportunity for the technical knowledge acquired during working groups and/or studies to be presented and discussed. Country information and experiences are exchanged and recommendations made for follow-up.

There is one large area in which the Regional Office is now becoming more active and that is the field of research, in which, up to now, our Headquarters has played a prominent role. Now, however, following a policy of decentralization of roles and responsibilities within the Organization, the Director-General has requested each Regional Office to look into the problems of research and carry out work at regional level. This task, in our Region, is very vast because of the large number of research institutions and great amount of research activities carried out. The Region has a great reservoir of trained scientists and it is also one of the largest areas for training staff and technicians from all over the world.

Every year we process, in EURO alone, 3 000 fellowships for fellows coming in the main from other Regions of WHO to study their specialities in Europe. It is therefore very difficult for us even to make a list of research institutes in one specific area. As a result, the Regional Director has convened a

Regional Advisory Committee of scientists from various countries who have given guidelines as to the priority areas in which research should be followed up. These are:

- (i) standardization of methods, measurements and terminology in biomedical and health services research;
- (ii) prevention prophylaxis and early detection;
- (iii) evaluation of drugs and other therapeutic and diagnostic substances;
- (iv) problems in health care delivery; and,
- (v) economic aspects of health care.

Furthermore, each of these areas has developed various sub-groups and we are now in the process of establishing definite objectives. As Dr Recht mentioned before, this is where your recommendations will be useful as an input into the research aspects which will be reviewed in May 1978 when our Advisory Committee on Mental Health will convene.

Naturally, we maintain close relations with the technical units at WHO Headquarters in carrying out our programmes, since the tendency now is to develop medium-term programmes covering activities extending over a 5 to 6 year period. These medium-term programmes are carried out in a systematic way, each as a general overall programme of the Organization, in which each Region has its own role to play. This line of approach has been laid down in principle in the 6th General Programme of Work of WHO covering the period 1978 to 1983.

In the Regional Office for Europe we have four main technical Divisions, or Services as they are called. One is concerned with the organization of health services, and deals with methodological aspects, organization of community services, organization of public health laboratories, planning, evaluation, and health economics. One deals with health manpower development, another with the promotion of environmental health and another, for which I am responsible, deals with disease prevention and control, and covers all the diseases both communicable and non-communicable. The division is divided into different units, one unit deals with communicable diseases, including bacterial, viral diseases and zoonoses, one with malaria and parasitic diseases, one with cardiovascular and chronic diseases (such as rheumatism), another with chronic lung diseases and cancer, another with oral health and, of course, there is the unit of mental health, which is why I have an immediate interest in this particular activity.

I am very happy to say that we have already carried out joint activities with the Commission of European Communities and we are fully convinced that it is necessary to maintain close collaboration in our own endeavours, because there is work to do for everyone and, if we define this work, everyone can make a contribution which may be of great assistance in solving technical problems. Here, for example, I would like to mention the very important collaboration we have already had in the fields of cardiovascular diseases, chronic lung diseases and in mental health. We have had a series of studies during the past 5 to 6 years, on pilot areas in Europe, which were reviewed earlier this year at a Working Group to discuss the Long-term Effects on Health of Air Pollution. This work was carried out in collaboration with your scientists.

Close collaboration has been maintained with other governmental organizations, non-governmental organizations and international professional associations.

For instance, the most recent has been our collaboration with the Finnish Foundation for Alcohol Studies with which we produced the booklets I mentioned before, one dealing with alcohol control policies in public health perspective, and the other on international statistics on alcoholic beverages. This present meeting will, I hope, pave the way for future activities and collaboration with the CEC.

I would like to mention here that the next major activity in the field of alcohol dependence to be organized by our Office will be a Conference in August 1978 on Public Health Aspects of Alcohol and Drug Dependence, to which all Member States have been invited to send participants. The input of your meeting will be very useful for the Conference.

Once again may I convey to you my best wishes, and those of Dr Kaprio, for the success of this meeting.

16 November 1977

FIRST SESSION

General assessment of risks

Chairman: Prof. D. Bovet

PHYSIOLOGICAL ASPECTS AND BIOLOGY

J.P. von Wartburg and Margret M. Ris

The pathfinding studies by Dr Jellinek have led to the general view that many factors play a part in the development of alcoholism. We therefore often speak of a multifactorial pathogenesis of toxicomania. Accordingly, research on alcohol abuse and alcoholism in the last decades has been conducted on a multidisciplinary basis. In this respect, it is good form for every specialist in his field to underline the importance of the other fields. As a biochemist and physician I shall gladly follow this line and pay tribute to psychiatrists, psychologists and sociologists. As Dr Jellinek remarked as early as 1960 in his book 'The disease concept in alcoholism',¹ after the tribute I can now formulate my own theories exclusively from my own field. Today, however, I should like to attempt to do this as little as possible in order to illustrate the interdisciplinary aspects in the system as a whole. I should like to base my remarks on what I feel is a major observation on alcohol consumption.

The statistical surveys of Dr Wüthrich² show that the distribution of alcohol consumption over the population also in Switzerland does not correspond with a Gaussian distribution curve, but may be approximated by a normal logarithmic curve. This observation was made as early as 1956 by Ledermann for France and confirmed later in 1968 by Dr de Lint for Canada. The total alcohol consumption for 1976 in Switzerland is estimated at 10.3 litres pure ethyl alcohol per capita. Of this some 5% of the highest consumers in the population drink almost a third of the total consumption (figure 1). If we add the next group of 5% consumers we see that 10% of the total population consume practically half of the alcohol.

A further 40% drink 46% of the total alcohol consumption, leaving for the other half of the population only 6% of the alcohol consumed. It is obvious that these groups not only vary in the percentage of total consumption but also in the quantity/frequency index. This index defines both the amount of alcohol drunk per occasion and the number of occasions per time unit, thus representing a kind of mathematical recording of the drinking behaviour of an individual. This index can illustrate how often and how much is drunk. This, in turn, gives rise to an interesting question as to whether there are drinking patterns which reach biologically possible limits. Before we look into this question we must recall certain medico-biological conditions.

In Figure 2 we can have a brief look at the metabolism of ethanol in the body.³ Over 90% of ethanol is oxidized via the primary metabolite acetaldehyde to acetic acid and finally to CO₂. The first step takes place mainly in the liver where alcohol dehydrogenase is the main enzyme. Through this enzyme, as well as in the next step, hydrogen is released. This hydrogen is then oxidized

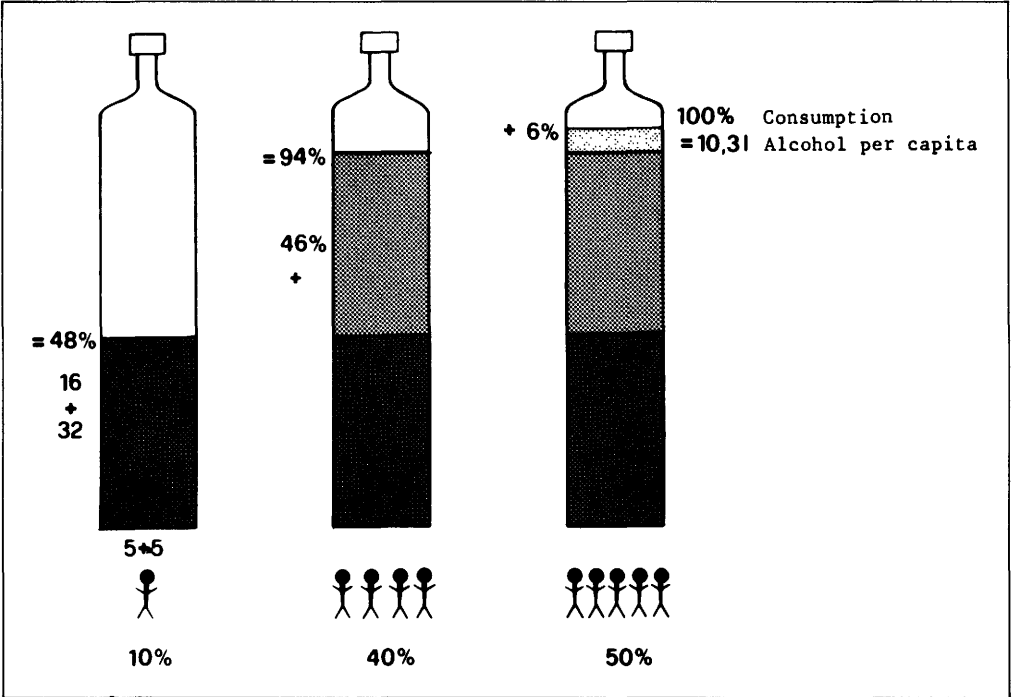


Figure 1

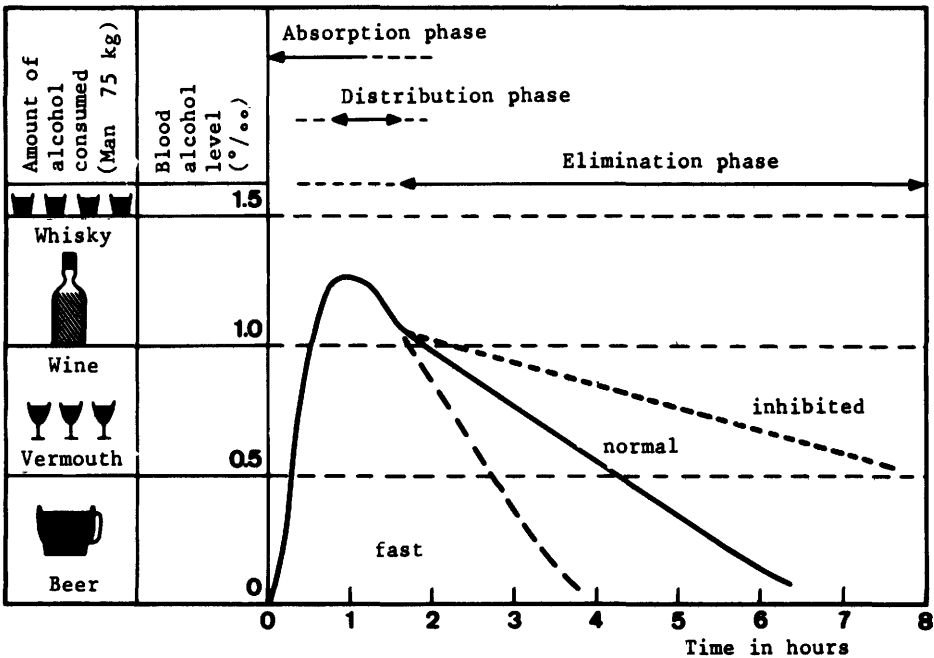
	Enzyme	Alcohol Chronic
<p>Ethanol</p> <p>Meos ↓ ADH</p> <p>Hydrogen</p> <p>Acetaldehyde</p> <p>Hydrogen</p> <p>Acetate</p> <p>CO₂ + H₂O</p> <p>+ O₂ → H₂O</p>	ADH : Alcohol dehydrogenase	Unchanged, not inducible
	Meos : Microsomal ethanol oxidizing system	Increased, inducible

Figure 2

to water in the so-called biological oxidation process by means of inhaled oxygen. The acknowledged 7 calories per g alcohol consumed are released in the process. It is now assumed that a second enzyme is also capable to oxidize ethanol to form acetaldehyde. This is known as the microsomal ethanol-oxidizing system which was discovered by Dr Lieber in New York.⁴ While this enzyme system would appear to play only a minor rôle in the normal alcohol metabolism it could be of greater importance after chronic consumption of alcohol.

In contrast to alcohol dehydrogenase, which remains unchanged even after prolonged consumption of alcohol, i.e. which is not inducible, it has been shown that the microsomal ethanol-oxidizing system is increased by chronic alcohol consumption, i.e. it is inducible. It is now assumed that induction of this enzyme system can accelerate the normal alcohol metabolism.

The speed of alcohol degradation depends mainly on the oxidation capacity of the liver. The elimination rate averages 100-150 mg ethyl alcohol per kg body weight per hour. ⁵ This corresponds to an hourly drop in blood alcohol level of approximately 1.5% or an oxidation rate of 7-10 g alcohol per hour. Accordingly, a normal person can oxidize some 170-250 g over 24 hours (Figure 3). It has also been shown that given a daily consumption of around 80 g the liver is occupied with the oxidation of the alcohol drunk of 8-11 hours. As we now know this average daily consumption is enough to produce an increased incidence of cirrhosis of the liver. ⁶ Moreover, as G. Péquignot has shown, ⁷ the daily alcohol intake over years leading to statistically



Rate of elimination : 100 - 150 mg/kg bw/h or 7 - 10,5 g

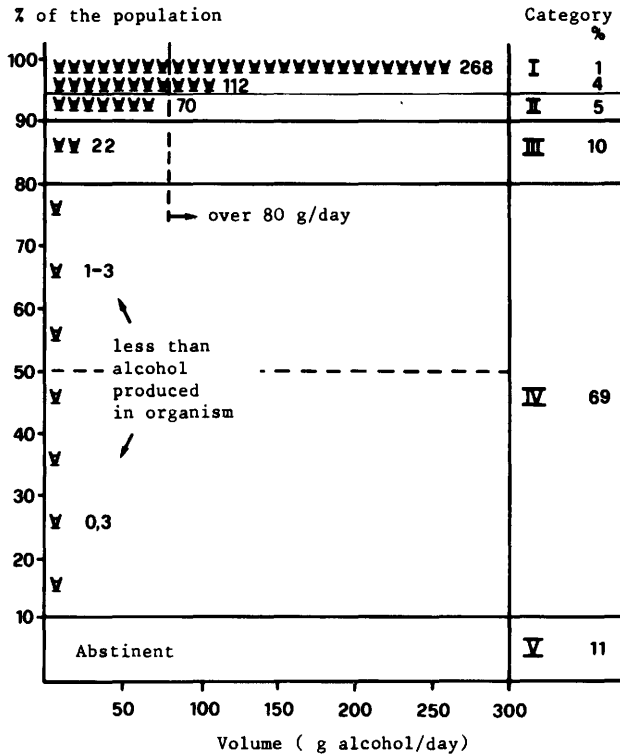
- 7 - 10,5 g Alcohol/h → 170 - 250 g/day
- 80 g/day → 8 - 11 h oxidation
- Cirrhosis of the liver
- Pancreatitis
- Duodenal ulcers, etc.

Marked individual variations !

Figure 3

increased incidence of organ damage varies for the different organs. Increased oesophageal carcinoma are observed after daily consumption of only 20-40 g alcohol, while higher intake is required for the occurrence of delirium tremens than for liver cirrhosis. It must, however, be stressed that these are rough statistical guides and that individual variations are considerable. From what has been said it is apparent that it must be of medico-biological interest to know what percentage of the population in this respect is at risk.

Figure 4 illustrates the daily alcohol consumption for individual categories of the population as a whole. The quantities drunk daily in g of alcohol are plotted on a cumulative basis against percentages of population. As we can see, 1% of our population reaches an average daily consumption of almost 270 g. As we have just mentioned the normal maximum oxidizable amount of alcohol per day is between 170 and 250 g and it can therefore be assumed that in these individuals the microsomal ethanol-oxidizing system is induced. This allows them to oxidize these large quantities of alcohol by an accelerated metabolic process. The next 4% of the population show an alcohol consumption of around 110 g per day.



▼ = 10 g alcohol/day
 ▼ = less than 10 g/day

Figure 4

These two groups together account for 5% of the population and are classified in category I. The majority of cases of alcohol-induced damage, such as cirrhosis of the liver, are to be expected in this category. Mostly, only medical treatment is of any use for individuals belonging to these groups. The next 5% of the population are in category II. These people, with an average consumption of over 70 g per day remaining persistently in this category are threatened mainly by two risks. Firstly, organ damage occurs in a certain percentage, and, secondly, there is a possibility of moving from this category to category I. In terms of preventive medicine it would be important to provide for a consistent recording of this group. In principle we already have enzyme-diagnostic methods which can detect early signs of minimum liver damage, as e.g. the determination of the gamma-glutamyl-transpeptidase which should be included in screening programs in order to be tested as valuable method under different possible working conditions (in hospitals, in enterprises, etc.). Moreover, we have to keep in mind that psychosocial changes may lead to a movement into category I as well. Today, no methods for an early detection of such changes are yet available.

In an intermediate category we find people who drink about 20 g alcohol per day. From purely biomedical aspects this consumption ought to be acceptable if it were not connected with mental or socially-induced alcohol abuse. Category IV includes almost 70% of our population. The vast majority drink only little alcohol, namely 0.3-3 g per day. Although this is an average value it is interesting to note that the amount of alcohol drunk is lower than that normally produced in our bodies. This endogenous alcohol is both formed in our metabolism and supplied almost gratis by bacteria in our intestines. The question arises whether in individuals belonging to this category alcohol produces a psychopharmacological action which leads more to unpleasant than to beneficial feelings. Thus it might lead to restricted alcohol consumption. Category V, finally, comprises teetotalers who account for 11% of the population of Switzerland. These figures illustrate that the change from one consumer category into the next is of great significance. It should therefore now like to discuss the factors which could lead to a change from one category to another (Figure 5).

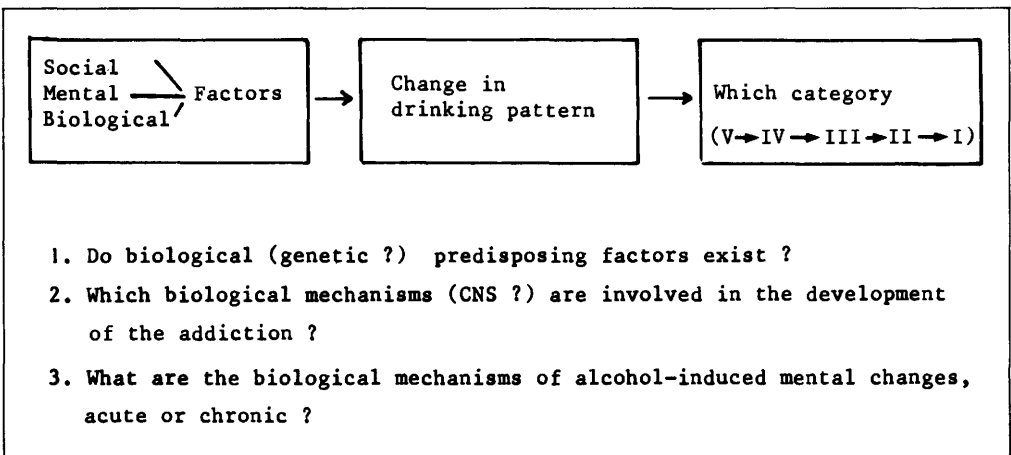


Figure 5

When we think of the percentage of alcoholics in the total population it is obvious that major individual differences must exist with respect to possible biological or genetic predisposing factors. In other words, either biologically predisposing factors are rare in a population or they only take effect in connection with other predisposing of a social and mental nature. To answer this question I should like first of all to give mention to the term of biochemical individuality.

Figure 6 represents a kind of average or standard person.⁸ The individual rectangles correspond mainly with the average blood values of various enzymes and metabolic products and their variability. The dimensions are chosen in such a way as to represent human proportions to some extent. In Figure 7, we find this standard person at the top left. If the same sizes are now determined individually in 11 clinically healthy humans and represented proportionally we obtain an impressive picture of the so-called biochemical individuality. This, of course, does not, only apply to the blood values given here but especially to enzymes. In this context we are, of course, particularly interested in the enzymes of alcohol metabolism.

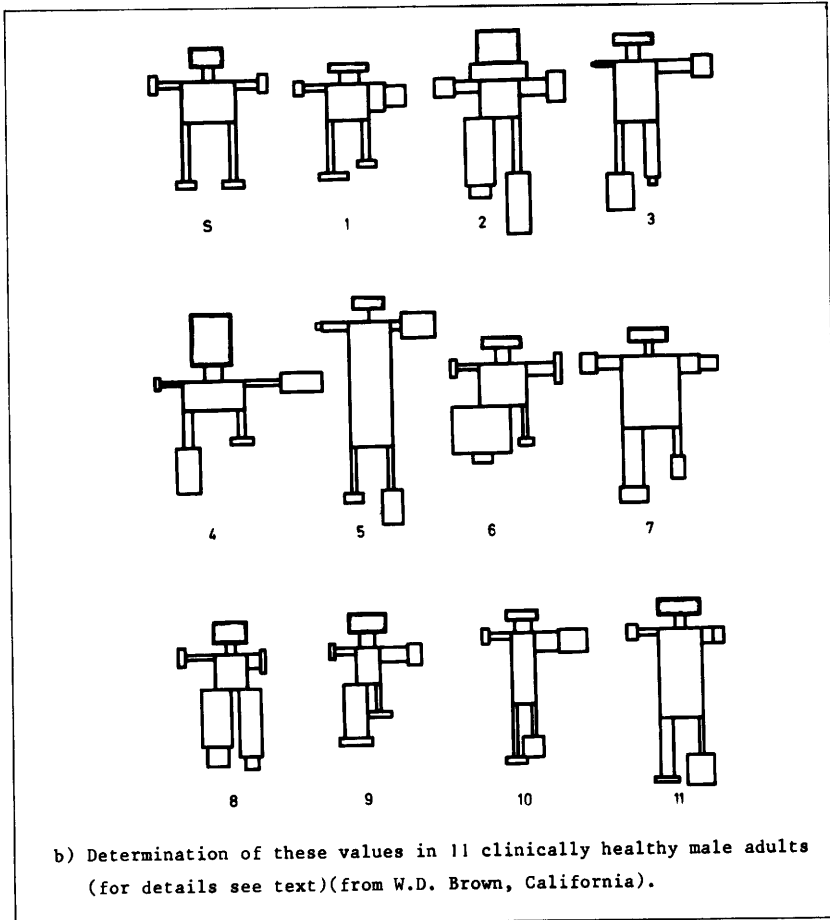


Figure 7

A little over 10 years ago, we discovered that not all individuals have the same alcohol dehydrogenase in the liver. We call this individual incidence of different enzyme forms a genetic enzyme polymorphism (Figure 8). 9, 10 About 80% of the population in Switzerland have the normal enzyme while some 20% have the so-called 'atypical' variant. We know today that this polymorphism is found throughout the world although the frequency of 'atypical' alcohol dehydrogenase can vary appreciably from one population to another. For example, frequencies of 3-30% are found in white populations, 9, 10, 11 as opposed to 80-90% with the 'atypical' variant in Japan, 12, 13, 14 which in Mongoloid races is practically the normal enzyme. If one measures the alcohol dehydrogenase in normal enzyme carriers more or less two international units per g liver are found. In contrast, in persons with the 'atypical' variant this activity is some 4 times higher, i.e. 8 international units per g liver. We have mentioned that as a rule the alcohol oxidation rate measured in vivo is 7-10 g alcohol per hour. When the alcohol elimination rate is examined in 'atypical' individuals one finds - not as could be expected - a 4 times greater elimination rate but a value of 10-12 g alcohol per hour. 10, 15 This is due to the fact that in these individuals the oxidation of the hydrogen formed limits the speed of the overall elimination rate. As is shown in the lower part of the figure the blood alcohol curve of an 'atypical' individual differs only slightly from that of a 'normal' individual. On the other hand, we know from studies in Japan that blood acetaldehyde levels can differ

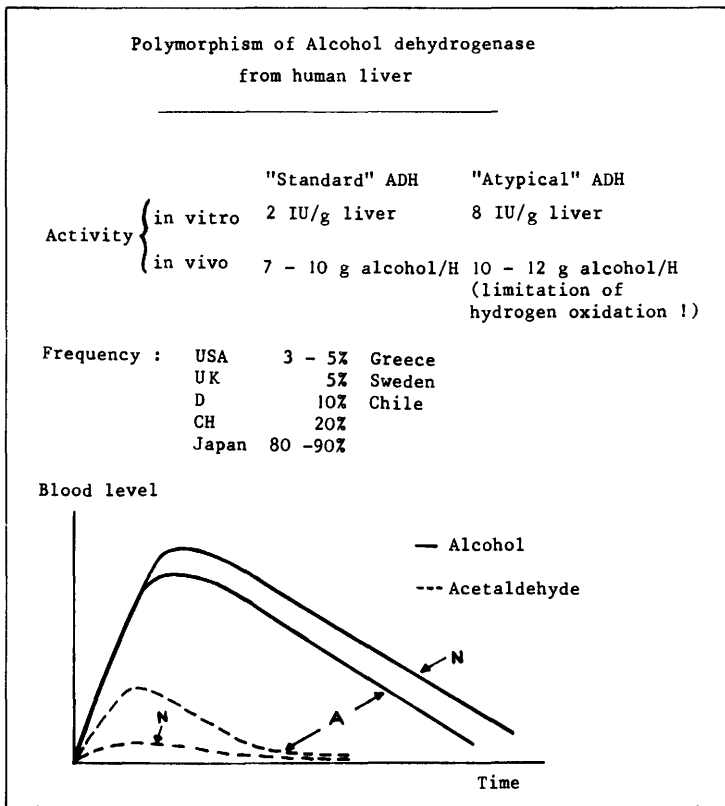


Figure 8

greatly; 15, 16, 17 whereas values are relatively low in normal persons 'atypical' individuals can reach blood acetaldehyde levels which are otherwise only found in patients treated with 'Antabuse'.

Figure 9 illustrates the possible consequences of this alcohol dehydrogenase polymorphism. As we also know from the alcohol/Antabuse reaction acetaldehyde is a highly toxic substance which has many effects on the body's metabolism. 18 Some are indirect and depend on secretion of hormones from the adrenal medulla caused by acetaldehyde. 19 In an individual with 'atypical' alcohol dehydrogenase a good deal of tissue and very many organs could be exposed to an increased blood acetaldehyde level. Greater organ damage can therefore be expected. A further example of differences between atypical and normal individuals is the increased formation of alkaloids, the synthesis of which I shall talk about shortly. The last of many possible examples is vitamin deficiency. Dr Li in the USA recently illustrated that the vitamin B₆ deficiency frequently found in alcoholics is not only due to a corresponding vitamin-deficient diet, but also to disorders in the metabolism of this vitamin caused by acetaldehyde. 20 In this case, too, an individual with genetic 'atypical' alcohol dehydrogenase would be at a disadvantage. However, we know, again from Japanese studies, that high blood acetaldehyde levels can give rise to unpleasant symptoms. 21 Examples include flushing, palpitation, nausea and an appreciable decline in wellbeing. All in all, these acetaldehyde-induced effects can definitely act as aversions and cause certain individuals to drink none or at least only very little alcohol. This is seen far more frequently amongst Mongoloid races than in white individuals. It is therefore

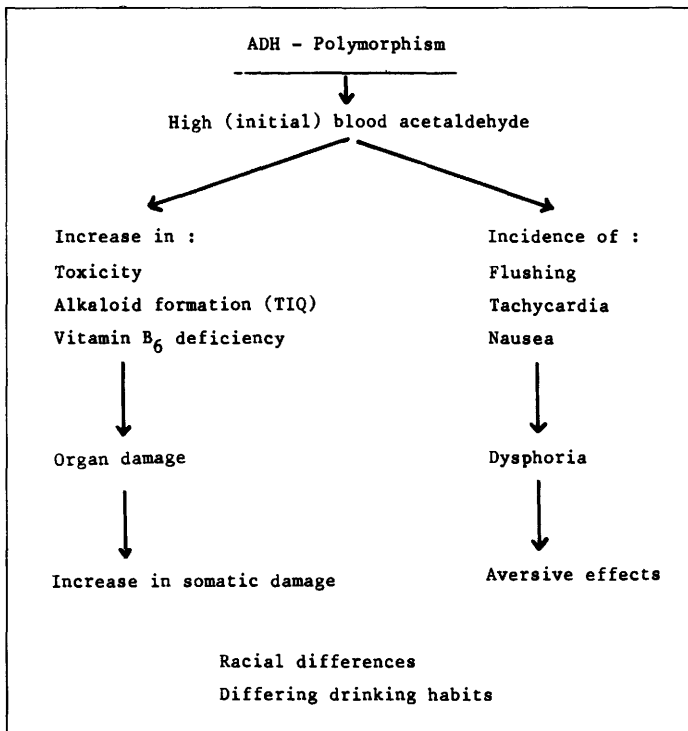


Figure 9

feasible that these racial differences not only result in the differences described as regards alcohol tolerance but have also had an influence on the drinking habits of entire populations throughout the centuries. Now that we have discussed the possible significance of biochemical individuality I should like to discuss two biological mechanisms which could be of importance in the development of alcoholism.

I should first like to mention a hypothesis formulated for the first time about ten years ago by an American research team (Figure 10). In the brain we find various biogenic amines which act as neurotransmitters. These substances transmit a nerve stimulus from one brain cell to the next. They are therefore part of a basic mechanism for the normal functioning of our brains. We have established that alcohol is broken down mainly in the liver and that the result is acetaldehyde. Some of this acetaldehyde penetrates into the blood and hence also into the brain cells where it can combine with the biogenic amines and induce the synthesis of alkaloids.

In humans they can only be detected in the urine and it is still uncertain whether they can also be formed in the brain during alcohol oxidation. It was illustrated on rats that direct administration of such alkaloids into the brain fluid causes animals so treated, when given a free choice, to drink considerably more alcohol than corresponding control animals, even months later. 23 It is now assumed, that these alkaloids act as false neurotransmitters and are involved in the development of withdrawal reactions. Although it is dangerous to extrapolate from animal experiments to humans it can be maintained that this mechanism in humans would be subject to appreciable individual variation as a result of the polymorphism of alcohol dehydrogenase.

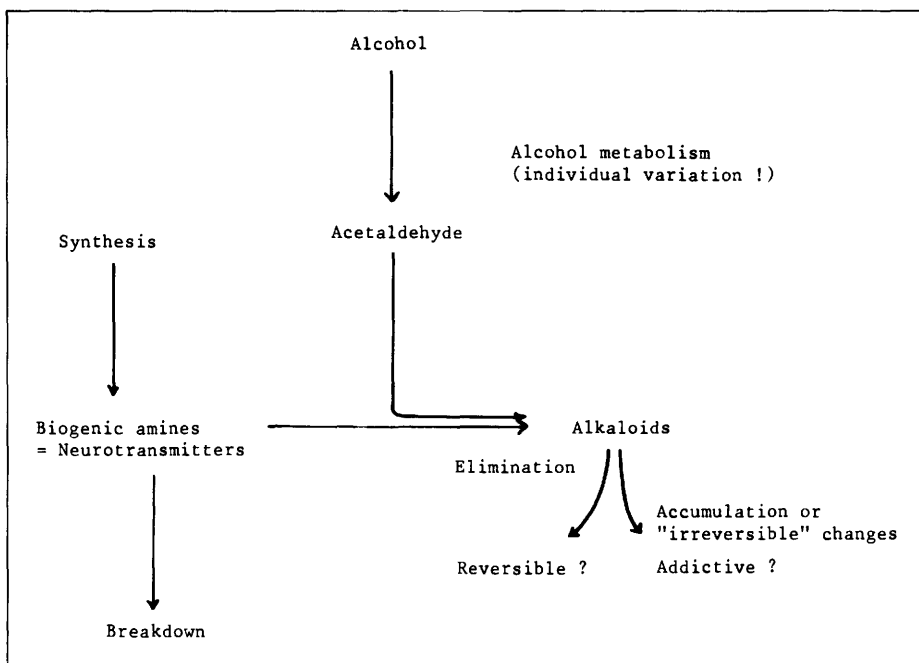


Figure 10

In addition to these effects of acetaldehyde on the metabolism of neurotransmitters in the brain alcohol also has other effects on the brain. These are the direct effects of alcohol on the membranes of the brains cells (Figure 11). As was recently shown by Dr Dora Goldstein in the USA the membrane of neurones is 'liquified' in a certain way under the effect of alcohol. 24 This process is readily reversible and disappears as soon as the alcohol has been metabolized in the body. However, if alcohol is administered to animals in chronic doses the brain reacts against this constant influence by solidifying its membranes to adapt. The result of this adaptation is that despite the presence of alcohol the membranes have normal fluidity and hence function normally again. This adaptive change therefore produces a tolerance in the brain to the effects of alcohol. If the supply of alcohol in this state is then stopped, the brain must function with the over-rigid membranes. It is now assumed that this could be a basic mechanism of how withdrawal symptoms arise. This gives rise to the decisive question as to whether these adaptive processes can also lead to a change in alcohol-induced mental changes.

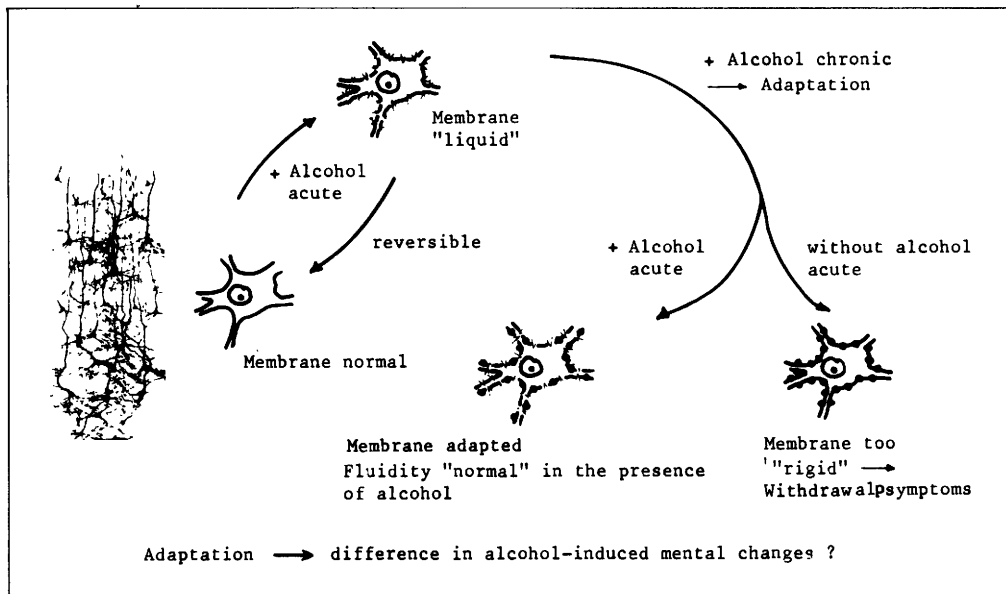


Figure 11

Since many interesting results have been brought out by neurobiological research, it seems to be the need of the time to muse on the significance of the adaptive increase of tolerance and the physical dependence with respect to the development of alcohol addiction. A good deal more research will be required before this question can be answered. I should nevertheless like to try and show the possible connections between alcohol-induced changes in biological, mental and social sectors (Figure 12). We have established that there is wide-scale biochemical individuality with regard to alcohol metabolism, and possibly changes in the metabolism of the neurotransmitters and membranes in the brain. Although we still know little of the molecular mechanisms which form the basis for alcohol-induced mental changes, we do know that there are individual variations. In this respect the latest examinations of Dr Ewing in the USA are of particular interest. 25 He carried out experimental drinking

parties and compared individual biological measurements with the drinking behaviour observed. The biological test used was the dopamina-beta-hydroxylase activity in the blood. The enzyme activity varies greatly from individual to individual although it remains very constant for years in each individual and is probably genetically determined. High values would seem to suggest increased basic activity in the sympathetic nerve system. Dr Ewing has now observed that individuals with high activity become more euphoric after alcohol consumption and drink more at the party than individuals with low values. Nevertheless, the results depend greatly on the social environment since the result was different when participants were allowed to bring their wives or girl friends. This finding is a typical example of the influence of the social environment on alcohol-induced instantaneous mental changes, which, for their part, contribute to instantaneous drinking.

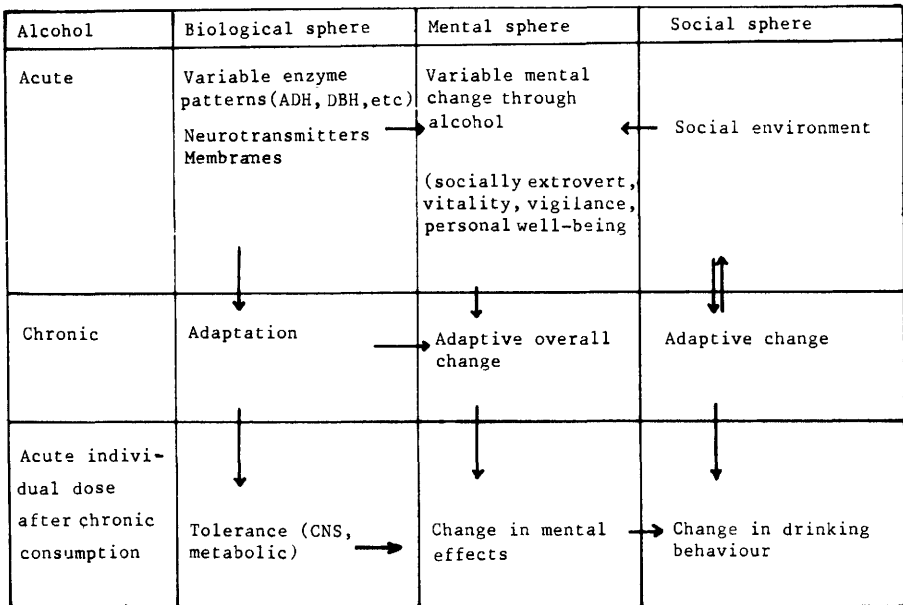


Figure 12

As we have already discussed, chronic alcohol consumption leads to biological adaptation in that the breakdown of neurotransmitters is different or the membranes are changed in structure and function. This biological adaptation will probably not be without its effects on mental factors. It is an established fact that as soon as there is too little alcohol in the system the adaptive body shows the well-known withdrawal symptoms. To what extent more subtle changes in the mental region are involved, e.g. increased instability, disturbed vitality, etc., is, we feel, a major problem for research. Changes on a social plane are ultimately the result of the interplay between biological, psychic and social adaptation. The effect of an acute single dose is no longer as in the non-adapted, but is changed to such an extent in terms of quantity and quality that only normal well-being is restored. This could lead to a vicious circle where the body, and the mental state, depend on the constant and perhaps increasing consumption of individual doses in order to function apparently normally. This means that in this state only a modified drinking behaviour with more frequent consumption and more alcohol can lead to constant well-being in all regions.

Nevertheless, we must admit that most measures are limited to therapy and that primary and secondary prevention in the sense of prevention and early recognition is still not as widespread as would befit the problem. In recent years, however, refreshing approaches in research have become apparent in this respect. For example, the reasons for consumption patterns in connection with psychological factors have been examined more thoroughly and more often. Studies on the psychopharmacological effects of alcohol and on pharmacogenetic aspects indicate that individual differences should not be underestimated. It is to be hoped that in the near future multidisciplinary research will provide the bases with which we can take more efficient preventive measures with the help of improved instruments and an overall conception.

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EPIDEMIOLOGICAL ASPECTS

G. Péquinet

THE CONCEPT OF THE ASYMPTOMATIC EXCESSIVE DRINKER

In epidemiology, the assessment of risks should lead to a definition of the 'excessive drinker' who is exposed to risks of disease related to the consumption of alcoholic beverages.

By tradition the excessive drinker is an 'alcoholic', that is a person consuming amounts of alcohol which are already causing neuropsychiatric symptoms. It is clear that an excessive drinker thus defined is already a sick person, and that it is therefore too late for preventive action.

For preventive medicine, the 'excessive drinker' is a person who is still asymptomatic while consuming amounts of alcohol which may cause neuro-psychiatric illness but may also have other pathological effects not necessarily associated with neuropsychiatric symptoms. This asymptomatic excessive drinker must therefore be defined by attempting to measure the risks of disease as a function of the dose of alcohol consumed.

The concept of the excessive drinker may be defined more explicitly by fixing a threshold beyond which the average daily dose of alcohol is considered dangerous. We shall see that this threshold is of necessity arbitrary, depending on public health objectives which are determined on the basis of epidemiological studies of the risks as a function of the doses consumed.

When assessing these risks, we must bear in mind that alcohol has two important properties:

- 1 - not only is it a drug causing physical dependence at the highest doses,
- 2 - it is also (which is often more important) a calorigenic nutriment (7 calories per gram), contributes to dietary imbalance, has toxic effects (on the liver, pancreas, etc.) and causes excess calorie intake which may lead to obesity and risks related to obesity (diabetes, arterial hypertension, myocardial infarction, etc).

OBJECTIVE DEFINITION OF THE ASYMPTOMATIC EXCESSIVE DRINKER

1. Study of alcohol poisoning

a) Research principles and methodology

If alcohol contributes to the risk of contracting a disease, the risk should increase with the doses consumed. This means that the morbidity, which is the ratio $\frac{\text{number of cases}}{\text{size of population}}$ should increase as a function of increasing doses of alcohol. To measure this risk increase as a function of dose, it is necessary to take a defined geographical area and interview a representative sample of the general population about its alcohol consumption and similarly interview sick persons in the same area whose diseases are considered to be alcohol-related. In this way it is possible to measure the morbidity for each class of alcohol consumption, since one has the number of sick persons and the number of persons in a representative sample of the population in the same geographical area for each class. The increased risk may then be measured by the relationship between the morbidity observed in a given class of consumption and that observed in the lowest class of consumption. The calculation principle is simple: if N_0 and P_0 are the number of sick persons in the control population in the class consuming 0.20 g alcohol per day, morbidity in the class is $M_0 = \frac{N_0}{P_0}$. In a higher class of consumption e.g. 80-100 g,

morbidity is $M_{80} = \frac{N_{80}}{P_{80}}$, where N_{80} and P_{80} are the number of sick persons

and controls in the class. The risk in this class is R

$$R_{80} = \frac{M_{80}}{M_0} = \frac{N_{80} \times P_0}{P_{80} \times N_0}. \text{ (It should be noted that } P_0 \text{ and } P_{80} \text{ are not the}$$

numbers of persons in the population but in a sample of the population.

Thus the morbidity $M_0 = \frac{N_0}{KP_0}$ and $M_{80} = \frac{N_{80}}{KP_{80}}$, where K is a constant of

proportionality:

$K = \frac{\text{Total size of population}}{\text{Number of persons in the sample interviewed}}$; but when calculating the

risk, the K constant is not taken into account since it occurs in both

numerator and denominator: $R_{80} = \frac{N_{80} \times KP_0}{KP_{80} \times N_0}$.

b) The Ille et Vilaine surveys was based on the above principle. In this French department a sample of the general population over 24 years old and all persons admitted to hospital for ascitic cirrhosis of the liver, delirium tremens and cancer of the oesophagus were questioned about their daily alcohol consumption. The representativity of the three groups of hospital patients was checked by a survey among doctors in private practice.

b) Table 1 and 2 give the results for the two sexes. In both, the distribution of consumption is in reverse order in the population as compared with the three groups of patients. But while there are 200 cases of cancer of the oesophagus, 184 cases of cirrhosis of the liver and 110 cases of delirium tremens (for 778 controls) in the men, only the number of cases of cirrhosis of the liver in the women is sufficiently high to permit calculation of the risk.

Data for the calculation of cirrhosis in women are given in Table 3. In this calculation, the observed numbers represent the sick persons and the theoretical numbers represent the controls adjusted for age and rounded to a total equivalent to that of the sick persons. The controls are called 'theoretical' (or 'expected') because, in theory, the numbers of sick persons should be the same if the disease under investigation were not alcohol-related. As this is not the case, the relative risk increases in relation to risk 1 which, with cirrhosis in women, corresponds to the ratio

$$\frac{N_o}{P_o} = \frac{11}{79.6} \text{ in the class consuming 0.20 g alcohol; thus, in the class}$$

consuming 21-40 g alcohol, the relative risk is:

$$\frac{N_{20}}{P_{20}} : \frac{N_o}{P_o} = \frac{14}{17.2} : \frac{11}{79.6} = \frac{14 \times 79.6}{17.2 \times 11} = \frac{1114.4}{189.2} = 5.89 \text{ (rounded off to 6)}$$

Table 1

Distribution of the population and of cases of cancer of the oesophagus, cirrhosis of the liver and delirium tremens by classes of alcohol consumption. Men-Ille-et-Vilaine -

Grams of alcohol per 24 h	Number of cases expressed as a %			
	Population	Cancer of the oesophagus	Cirrhosis of the liver	Delirium tremens
0 - 20 g	23.8	6	1.6	0
21 - 40 g	27.2	8.5	5.4	0.9
41 - 60 g	21.2	15.5	8.2	1.8
61 - 80 g	13.9	22.5	13	3.6
81 - 100 g	7.5	16.5	16.3	16.4
101 - 120 g	4	8.5	12.5	19.1
121 - 140 g	1.7	7	13.6	20.9
141 - 160 g	0.6	9	13	10.9
More than 160 g	0.1	6.5	16.3	26.4
Total	100	100	100	100

Table 2

Distribution of the population and of cases of cancer of the oesophagus, cirrhosis of the liver and delirium tremens by classes of alcohol consumption. Women. - Ille-et-Vilaine -

Grams of alcohol per 24 h	Number of cases interviewed			
	Population	Cancer of the oesophagus	Cirrhosis of the liver	Delirium tremens
0 - 20 g	692(80.3%)	4	11	0
21 - 40 g	144(16.7%)	1	14	4
41 - 60 g	22(2.6%)	2	19	2
61 - 80 g	2(0.2%)		14	3
81 - 100 g	2(0.2%)		10	2
101 - 120 g			16	1
121 - 140 g			8	1
141 - 160 g			4	0
More than 160 g			4	2
Total	862(100%)	7	100	15

Tables 3 and 4 give the results of these calculations for the two sexes. The relative risks have been rounded off to the nearest unit.

Table 3

Women with cirrhosis of the liver - Ille-et-Vilaine -

Alcohol g per 24 h	Numbers		Relative risks
	Theoretical	Observed	
0 - 20	79.6	11	1
21 - 40	17.2	14	6
41 - 60	2.7	19	51
More than 60	0.5	56	810
Total	100	100	

Table 4

Men - Ille-et-Vilaine -

Alcohol g per 24 h	Relative risks		
	Cancer of the oesophagus	Cirrhosis of the liver	Delirium tremens
0 - 20 g	1	1	
21 - 40 g			
41 - 60 g	3	3	1
61 - 80 g	5	7	
81 - 100 g	7	14	30
101 - 120 g	7	18	56
121 - 140 g	17	60	154
More than 140 g	86	390	551

It may be seen that the risks increase dramatically as the dose increases, but the increase in the risk of delirium tremens appears to start at a higher intake than for the other two diseases.

This is confirmed by comparing the means plus or minus two logarithmic standard deviations.

Table 5

Men - Ille-et-Vilaine - Alcohol consumption in g per 24 h. Logarithmic means \pm 2 standard deviations converted into arithmetical values

	- 2 S.D.'s	- 1 S.D.	mean	+ 1 S.D.	+ 2 S.D.'s
Controls from general population	3	8	29	97	325
Hospital controls	4	12	34	102	303
Cancer of the oesophagus	7	21	63	187	556
Cirrhosis of the liver	26	51	97	187	354
Delirium tremens	62	88	127	183	263

This table (Graph 1) confirms that there are classes of alcohol consumption for which delirium tremens is highly unlikely while the risk of the two other diseases studied is distinctly increased. The average classes of consumption (Graph 2) are classified in the order delirium tremens, cirrhosis of the liver, cancer of the oesophagus and population, while the ages of the patients are classified in reverse order. One is led to suggest a comparative natural history of the three diseases considered. The most heavy drinkers have delirium tremens at about 45 years of age on average; those who consume 20 g alcohol less do not get delirium tremens but many contract cirrhosis of the liver ten years later. Drinkers consuming another 20 g less on average may escape these two diseases and develop cancer of the oesophagus five years later, usually on condition that they are heavy smokers. Indeed the risk is related to the combination of alcohol consumption and smoking for this last disease, since at a constant dose of alcohol the risk increases with the amount smoked and vice versa. (Graph 3).

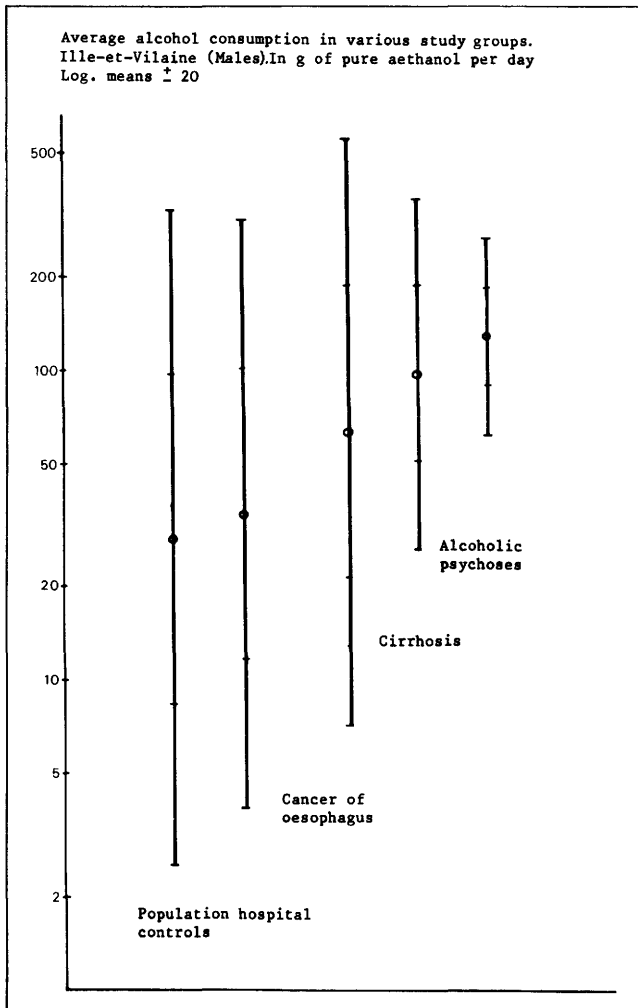


Figure 1

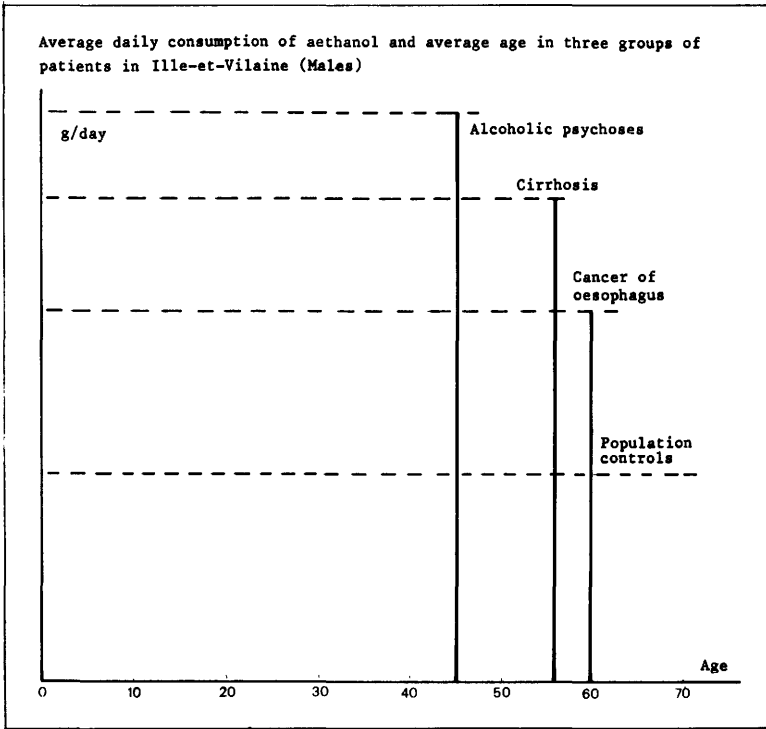


Figure 2

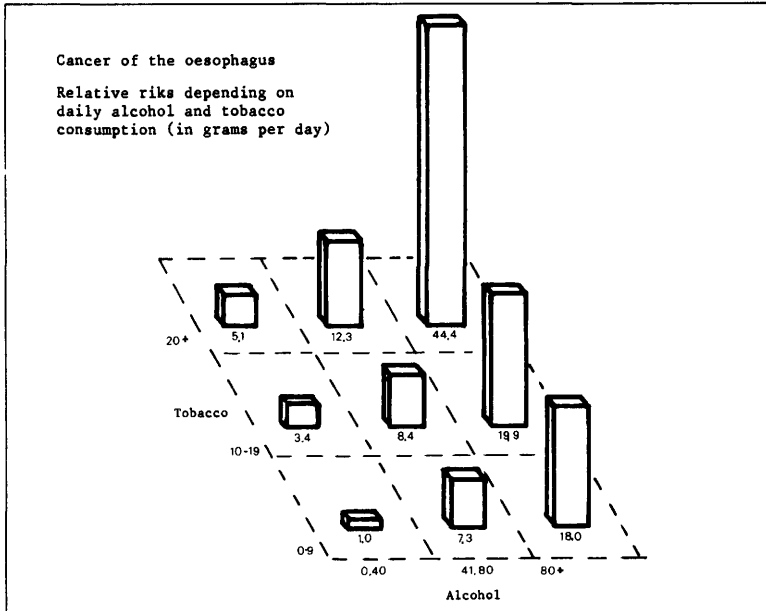


Figure 3

However, it is possible to calculate from the above data the remaining percentage of each of these diseases if the population had restricted its daily consumption to different maximum levels (Table 6.) (Graph 4 and 5).

Table 6

Comparison of the morbidity observed with the morbidity calculated for daily alcohol consumption not exceeding different maximum levels.
Ille-et-Vilaine survey

	Females ascitic cirrhosis of the liver	Males		
		Cancer of the oesophagus	Ascitis cirrhosis of the liver	Delirium tremens
No maximum limit (situation observed)	% 100	% 100	% 100	% 100
Restriction of maximum consumption to:				
140 g		88	76	73
120 g		82	63	64
100 g		82	58	38
80 g	72	77	42	10
60 g	48	55	27	5
40 g	28	30	17	4
20 g	28	30	17	0

The percentages calculated are obtained by calculating the risks in accordance with the stated doses consumed. At each level of restriction it was supposed that the subjects who had limited their consumption would be situated in the class consuming 20 g less.

It may be seen that the remaining percentage drops progressively as the supposed maximum level drops. At the conventional threshold of 80 g the benefits are very satisfactory for delirium tremens, with 90% of the cases eliminated. But the effects on the frequency of cirrhosis of the liver and cancer of the oesophagus are distinctly inadequate. Satisfactory effects would be achieved if consumption were lower than 40 g in men and 20 g in women. But it may be seen that by bringing the upper limit down from 40 g to 20 g, another of the cases of ascitic cirrhosis of the liver in men would be avoided. Fixing an acceptable maximum level is thus of necessity arbitrary, but I consider that 40 g in men and 20 g in women would be satisfactory upper limits for the diseases considered.

2. The nutritional effects of alcohol

Alcohol intake and obesity and related risk factors. Three surveys by the INSERM nutrition section have demonstrated a relationship between alcohol consumption and obesity.

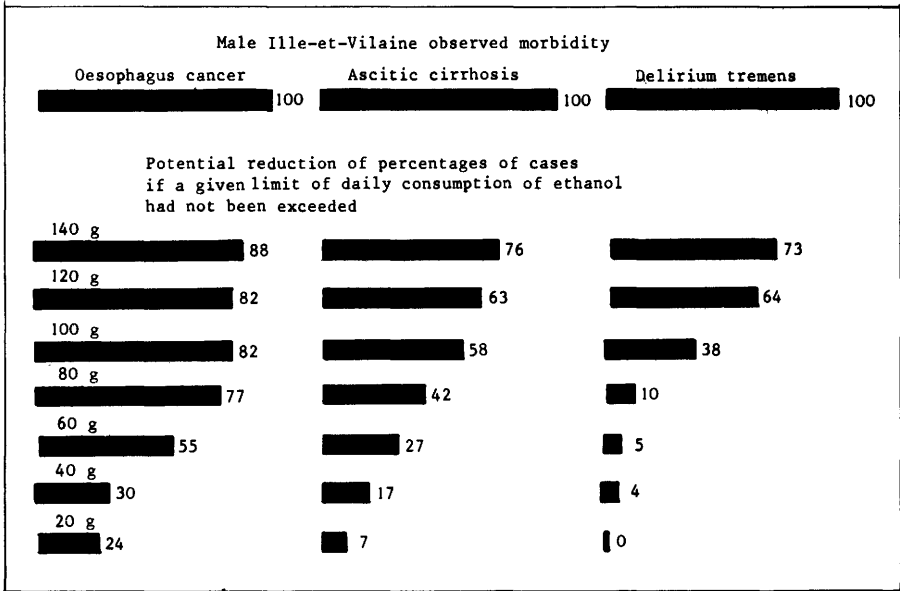


Figure 4

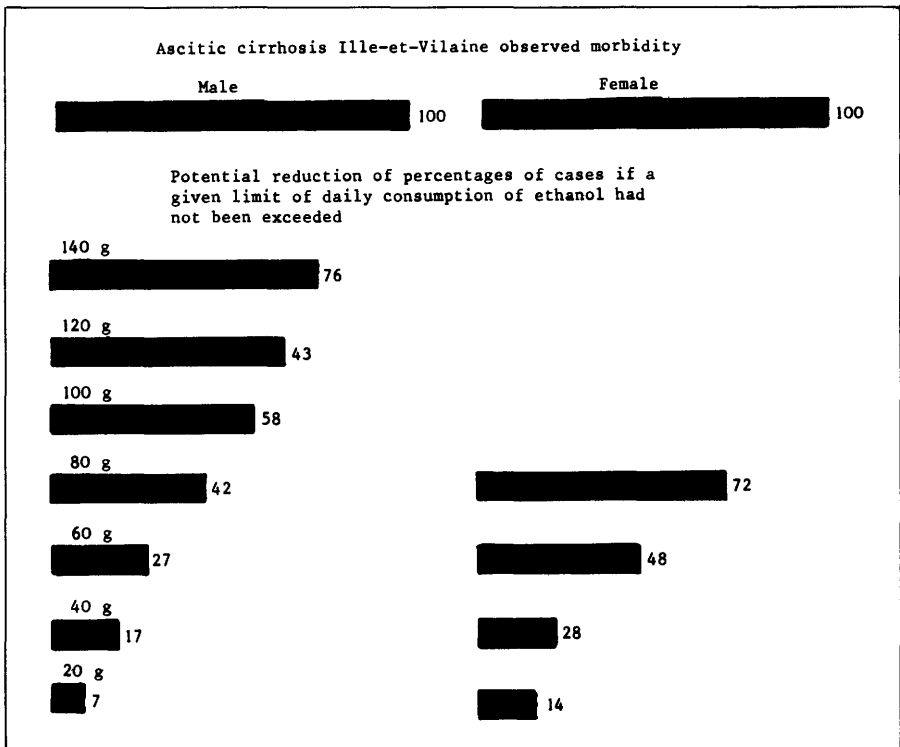


Figure 5

In these surveys a negative correlation was found between intake of calories without alcohol and of carbohydrate, and increasing degrees of obesity. But there was a positive correlation between obesity and alcohol intake, so that the total calorie intake with alcohol had no correlation with obesity. In an increasingly sedentary population, is a calorie intake of 150 to 300 calories per day from alcohol reasonable? From this point of view, I feel that the daily consumption of alcoholic beverages should be discouraged.

CONCLUSIONS

1. From the initial studies carried out in France, an outline can be given of the risks incurred as a function of 'stated' alcohol consumption.
 - The nutritional risk is associated with the lowest quantities (overweight, high blood pressure, diabetes, myocardial infarction, etc.)
 - For a stated daily dose of over 20 g alcohol, the risk of cirrhosis increases considerably in women.
 - At over 40 g alcohol, the risk of cirrhosis increases considerably in men. This also applies to cancer of the oesophagus, where tobacco also plays a part.
 - The risk of delirium tremens becomes significant only above 80 g alcohol.
2. There is still a lot of epidemiological work to be done on alcohol-related diseases.
 - (a) Studies on the dose-effect ratio should be extended to other diseases where the part played by alcohol is known (cancer of the upper airways and upper digestive tract, calcifying pancreatitis), where there is a possible link (other cancers of the digestive system, myocardial infarction) or where the connection has not yet been established.
 - (b) The studies should be extended to other countries so that the initial results can be corrected or confirmed.
 - (c) Studies of the 'stated' alcohol consumption of representative samples of the population of each country should be carried out to complete the investigation so that the relationship between per capita consumption and the number of alcoholics at risk can be clearly established.
 - (d) When the alcoholics at risk have been defined and listed with the help of the above studies, practical ways of detecting them before there are any signs of digestive poisoning or neuropsychiatric symptoms must be found (nutritional risks and biological analyses could be used, for example).
 - (e) Effective ways of dealing with alcoholics detected in this way must then be found so that truly preventive action can be undertaken.

DISCUSSION

In response to a number of questions on abnormal alcohol dehydrogenase (ADH), Professor von Wartburg commented that the Japanese appeared to display an extraordinarily wide variety of both enzyme patterns and drinking styles, though there was, as yet, no evidence of a correlation between the two. Informal observation suggested that one common pattern of drinking in Japan was to commence with small quantities of fairly mild beverages; this often led to a phase of flushing and palpitations which subsided as the individual continued to drink, and on the completion of which he moved on to high concentration beverages.

Atypical ADH had also been reported to occur in 40% of patients with liver cirrhosis in Chile, though control data was not available. Nothing was known as to whether severe Antabuse reactions were another manifestation of abnormal enzyme function; investigation was difficult, since present detection techniques depended on liver biopses.

The mechanism by which alcohol produced neuro-pathological changes was raised. It was well established that alcohol exerted an acute effect on the behaviour of nerve cell membranes, and it was suspected that chronic administration could lead to thickening of the membranes with marked impairment of function. However, alcohol could also act as a sympatheticomimetic agent; it might thus lead to vascular changes, which in turn might be the cause of the enlargement of the third and fourth brain ventricles, and the spread of atrophic changes from the occipital to the temporal to the frontal regions, commonly noted in chronic alcoholism. Alcohol might also be implicated in vascular disorders more indirectly; for example, a recent French study comparing subjects with high and low blood cholesterol found no difference in food intake among females, but the expected differences could be demonstrated among men, whose diets more often contained substantial quantities of alcohol. In many parts of the world, alcohol was an important source of calories.

It was generally agreed that there was little or no evidence for any important toxic effect attributable to congeners. This general view had received additional support recently from a study in Brittany, where carcinoma of the oesophagus is relatively common, as is the ingestion of Calvados. It has emerged, however, that the risk of carcinoma depended principally on the quantity of alcohol consumed and not the type of beverage. Some speakers, however, considered that congeners still merited further investigation.

There was broad agreement that for most complications of alcohol abuse, the risk of damage is dose-related, but the precise relationship is not straightforward. Then, a recent survey in Ille and Vilaine suggested that at an intake level of 40 g/day, the risk for women was twice as great as that for men with

respect to liver cirrhosis, carcinoma of the oesophagus and alcohol-related neurological and brain disorders. Among women, an intake of 60 grams or more a day increased the risk to a ratio of about 800 with respect to the general population for each of the three types of pathology. For men, the effect was less clear; it appeared to be synergistic with tobacco and also to be affected by age. It also appeared to differ markedly according to the type of pathology being considered.

Brain damage in alcoholism appeared to be commoner than had formerly been suspected; modern electronic techniques revealed damage in 50% of young alcoholics. Psychological testing demonstrated impaired perceptual and memory functions with increased fatigability and poor concentration, but these did not clearly correlate with morphological changes. The psychological defects could persist even after five years abstinence. Careful psychometric assessment and re-training were thus important in the rehabilitation of alcoholics.

The value of serum estimations of gamma glutmyl transpepsidase (GGTP) was widely discussed. A raised value reflects liver damage (which may not be relevant to other complications of alcohol abuse). It was also noted that approximately 20% of clinically diagnosed alcoholics had normal levels, although these patients may show elevation of other enzymes. For these reasons, and others, it was generally agreed that GGTP estimations could not as yet be used for population screening to detect excessive alcohol ingestion. Nevertheless, the test appeared to be of some value in specific situations. For example, a programme was active in some French mining organizations where any candidate for promotion was obliged to have GGTP estimation.¹ If raised levels were found, the individual was told he was not well enough for a more responsible post, and allowed four weeks in which to moderate his drinking. If, on re-test, he had attained normal levels, he was promoted, but subsequently checked at intervals. If he failed to reduce his GGTP level, he was brought under observation for two weeks, and this enforced abstinence usually resulted in improvement. Otherwise, the individual was investigated for other disorders. The possibilities for adopting this programme in other occupational groups appeared to be good.

¹ See contribution of Dr J. Niveau

PSYCHOLOGICAL ASPECTS

N. Kessel

The psychological risks - that is, consequences - of alcohol abuse form a large subject. Every student at our medical school must attend a two-hour lecture to get the understanding which is the required minimum in this field. With twenty minutes to present the risks, I can of course only skate over the surface of the subject. I introduce that image, figuratively, to explain the importance of vicious circles in the development of alcoholism. Many of the conditions which contribute to excessive drinking also result from it and thus predispose to even more drinking. This circularity is not confined to psychological processes; it can be observed in the somatic and social spheres. The separation of these three realms, although convenient, is essentially artificial.

Apart from outlining the psychological consequences, I also want to describe two significant stages in the development of alcoholism which deserve special attention:

- (i) palimpsest: the inability to remember in the morning the events of the previous day; this pleads for intervention;
- (ii) paranoid projection: development of the mistaken belief, verging on delirium, that the subject is being persecuted; this makes treatment much more difficult.

The psychological risks of alcohol abuse may be considered under six headings. These categories are neither exact nor absolute, but they are convenient. A drinker may:

- (i) get drunk
- (ii) suffer functional psychological illness, neurotic or psychotic;
- (iii) become demented;
- (iv) experience withdrawal symptoms;
- (v) develop a psychological dependence;
- (vi) manifest personality disorders which existed earlier but which have been aggravated by excessive drinking and its consequences.

Between one individual and another and in one country compared with another, some of these categories assume a greater significance, regarding both the harmful consequences and the treatment required.

1. DRUNKENNESS

I shall mention only three points in connection with this well-known state. Drunkenness is a serious problem because it causes serious, even fatal, injuries, accidents (especially road accidents), injuries suffered during brawls, and industrial or domestic accidents.

The hangover, another toxic state, needs to be distinguished - which is not always an easy task - from palimpsests and from withdrawal symptoms.

Lastly, and as a result, we must not consider the risks of alcohol abuse without including all types of excessive drinking behaviour, whether acute or chronic, frequent or infrequent. Special attention must be given to acute intoxication when considering preventive measures.

2. FUNCTIONAL ILLNESSES; SUICIDE

Neurosis, particularly depression, is found in a minority of alcoholics. It is true that most alcoholics - and I do not think that this applies solely to alcoholics in Great Britain - are unhappy people, depressed by their circumstances. However, I shall limit myself here to consideration of depressions which are recognizable as psychological illnesses. Depression is the commonest of the neuroses found. The clinical form is indistinguishable from the generality of depressive illnesses. We need to note, however, that while drinking leads to depression, depression leads to excessive drinking. Here is one of the vicious circles, and we know that without intervention there is high risk of suicide.

Many alcoholics kill themselves. In my view, these suicides occur not so much during attacks of remorse as in an atmosphere of desolation and despair and self-disgust, accompanied by the simple strain engendered by the unrelenting struggle of living. These people do not ask themselves: to be or not to be? That, for them, is not the question. Alcoholics do not so much kill themselves as suffer themselves to die.

I shall not detail here, because they are not specific, the other neuroses which may occur in alcoholics. For the same reason, I shall not mention functional psychoses, apart from the rare condition of acute alcohol hallucinosis, confined to alcoholics and characterized by auditory hallucinations of extreme vividness in clear consciousness. I shall return later to the subject of paranoid projection.

3. DEMENTIA

It was formerly thought that dementia was a rare condition among alcoholics and it is true that severe dementia is not very common. In carrying out psychological tests during clinical examinations, however, we have quite often found a minor degree of intellectual loss. The patients themselves realize this

and the knowledge increases their depression. After a long period of abstinence, there is sometimes improvement and sometimes not. This form of dementia may develop without any evidence of malnutrition or avitaminosis and can be distinguished from the syndromes of Korsakov and Wernicke.

A palimpsest is an inscribed Greek tablet, from the surface of which the writing has been effaced. The patient cannot remember the next morning the events of the previous day. This is not a direct toxic phenomenon. The patient was not completely drunk; he chatted and found his way home, but he can remember nothing. The palimpsests condition requires excessive drinking for several years. This condition - like the form of dementia which I described a moment ago - is the result of the constant attrition of the brain by a daily tide of alcohol. The onset of palimpsests comes as a great shock and this means that the patient, perhaps for the first time, is susceptible to advice and intervention. He can certainly be told at this time that, if he continues to drink as before, his mental processes may be affected irrecoverably.

4. WITHDRAWAL SYMPTOMS

Withdrawal symptoms are a physical reaction which is generally manifested psychologically. The symptoms include shaking, epileptic fits and delirium tremens. We now know, without any doubt, that these symptoms are produced when the blood alcohol level is reduced. It is not necessary to reduce the level to zero; the symptoms can appear if the patient has reduced consumption enough to lower the blood alcohol level. Withdrawal symptoms indicate a physical dependence on alcohol.

5. PSYCHOLOGICAL DEPENDENCE

Besides this physical dependence there is a psychological dependence which Dr Fouquet has defined as 'loss of the liberty to abstain from alcohol'. This is not because the alcoholic develops withdrawal symptoms if he stops drinking; it is just that without alcohol life does not run smoothly and he no longer feels at ease.

6. PERSONALITY DISORDERS

Most alcoholics do not have abnormal personalities. I do not believe that there are certain features of personality which lead inevitably to alcoholism. On the contrary, I consider that anyone can become an alcoholic if the circumstances are right and they encourage excessive drinking.

Nevertheless, some alcoholics do have personality difficulties which existed before their excessive drinking. It can be said that these individuals have turned to drink in an attempt to 'treat' their problems. Like Brand, the hero of Ibsen's first major play, they try at all costs to surmount their difficulties or else like Peer Gynt, Ibsen's next hero, they try to avoid them. Almost invariably, they find that their problems are made worse instead of better by drinking, but they carry on drinking more and more. This is

another example of the vicious circle. The alcoholic is well aware of this but he also knows that alcohol, with all its attendant problems, is the only solution he has found. Consequently, it is not enough to remove the alcohol if we want to treat him. We must help him cope with life, either by psychotherapy or by improving his social situation.

I return now to the mention of the mechanism of projection. I want you to think of the man who, on leaving his office in the evening, calls in at a nearby public house and has a drink, and then another, while thinking worse of himself with each glass and feeling more and more guilty at the thought of his wife, waiting at home, the dinner ruined, and so on. One day it occurs to him, usually right out of the blue and with intense conviction, that it is because his wife is always complaining about him that she stays out late. The fault is projected from himself to another. The events are misinterpreted.

In the same way, the infrequency of sexual relations is explained not as an effect of his alcoholic impotence but as an indication that his wife is sleeping with someone else. Morbid jealousy - in which French literature is much richer than English - is one of the most fascinating aspects in the whole catalogue of the psychological risks of alcohol abuse. Either as a clear delusion or as a kind of vague feeling, it is found frequently in the thoughts of alcoholics. When an alcoholic has arrived at the stage of paranoid projection, his treatment becomes much more difficult because he will not readily give up his self-deception.

CONCLUSION

My task was to describe the psychological consequences of alcohol abuse, not to quantify them. We have to accept that psychological processes cannot always be regimented in statistical columns. Let us consider to what extent we can use statistics.

Is it possible to know how many people get drunk? No, but it is possible to determine the exact number of accidents where alcohol played a part. Can we know how many neuroses or psychoses are the result of alcohol? No, but we can find out how many people end up in hospital and we have figures on suicides and attempted suicides where alcohol played a part. At the moment we do not even know the incidence of alcoholic dementia, although we should be able to determine how many patients are in hospital.

Do we know how many alcoholics present withdrawal symptoms or psychological dependence? No, and in particular we cannot know how many suffer from personality disorders. It is not surprising that it has been said that alcoholism is a graveyard for the epidemiologist.

Nevertheless, we know that alcoholism has its roots in psychology and that the most important and fascinating aspects of alcoholism are the psychological features. These lie at the heart of the problem.

I add one last remark to encourage you. Because of the dominance of psychological features, alcoholics may be distinguished from other people by questionnaire methods. If the Commission were to approve it, it would be possible to do so using forms.

PSYCHOLOGICAL ASPECTS OF THE MEDICO-SOCIAL DANGERS OF ALCOHOLISM¹

W. Feuerlein

I should like to single out two chapters from Mr Kessel's lecture:

1. The psycho-organic syndrome ('dementia')
2. The psycho-social changes in the alcoholic, affecting his interactions with the environment.

Re (1): The psycho-organic changes in the alcoholic have both a morphological and a psychological aspect.

MORPHOLOGICAL ASPECT

Severe alcohol abuse over a period of many years frequently leads to cerebral atrophy, characterized by enlargement of the ventricles of the brain and cortical atrophy. This was established decades ago in autopsy findings (e.g. Neuburger) and in vivo in pneumoencephalographica findings (e.g. Hudolin, Leuchs). In echoencephalographic examinations of chronic alcoholic, as compared with a healthy control group, a statistically significant enlargement of the third ventricle was found in persons between 20 and 50 years of age (Feuerlein and Heyse). These findings have been confirmed in more recent examinations using the computer tomogram (Wilkinson and Carlen), which in addition to the ventricular enlargement have also detected a deepening of the cerebral fissures. However, the neuro-psychological, neurological and neuro-radiological findings did not coincide. It is however interesting to note that the changes established by neuro-radiology had in many cases been reversed after eight months of abstinence.

NEURO-PSYCHOLOGICAL EXAMINATIONS

The extensive research on this subject, which has recently been summarized by Grünberger, yields a picture of damage at several levels. Motorfunctions are affected to a greater extent than the sensory system, the fine motor functions being impaired over a longer period than the basic functions. Impairment of

¹ Comments on the lecture given by N. Kessel, Manchester

memory is very frequent, the reordering and reproduction of visual impressions being particularly affected. This is especially clear in the Benton test. Differences between alcoholics and persons suffering from cerebral injuries are apparent. The performance of alcoholics is particularly poor when under pressure and when mobility is required. Detailed examinations using questionnaire tests (MMPI, FPI, 16 FP and the Rorschach test) showed increased orality, as well as signs of diminished self-control, increased aggression and diminished virility. However, it was not possible to establish a specific profile of the alcoholic personality. Deviant behaviour seemed to be more frequent among gamma alcoholics than among delta alcoholics. Changes in behaviour and attitudes also occur, involving an increased tendency to accept blame and to make demands on one's environment, increased inhibition, and also traits which correspond to the definitions of psychopathy, schizoid personality and mania in the MMPI. According to other psychological examinations, the discrepancy between a person's view of himself as he is and as he would ideally like to be is greater in alcoholics than in normal persons. To sum up, two groups of alcoholics can be distinguished:

1. Socially maladjusted persons who are unhappy and plagued by anxiety and who use alcohol to reduce the latter and overcome their inhibitions.
2. Socially contented, hypomanic persons, who use alcohol to achieve euphoria

Studies of the reversal of mental changes in alcoholics showed that after one year of abstinence, deficiencies of performance still persisted; even after five years abstinence, psychomotorfunction in power of concentration, in memory and the propensity to decompensate remained below par. This syndrome was defined as a 'functional psychosyndrome'. It is interesting to note that it was also found in delinquents who had spent many years in prison.

Re (2): With regard to psycho-social changes, referring to the ideas of Wieser and in particular to the primary group and small group, it is possible using Jellinek's classification into phases, to distinguish between a prodromal phase, a critical phase and a chronic phase. In the prodromal phase, ambivalent attitudes - feelings of guilt and anxiety on the one hand, aggression and defiance on the other - predominate. There is a tendency to brood and embroider on events and to justify one's behaviour by constructing an explanatory system. On the other hand the alcoholic, as a rule, cannot be expected to be aware of the nature of his illness. The small group is suspicious of alcohol abuse on the part of the person concerned; mistrustful observation, ambivalent attitudes and reactions are frequent. The attitudes of the relatives frequently oscillate between sympathy and antipathy (depending on the actual behaviour of the alcoholic). The behaviour of the primary group is characterized by nagging criticism within the family, whereas criticism on the part of outsiders is rejected.

In the critical phase, we find that the attitude of the alcoholic is still characterized by ambivalence, but we also find the first signs of resignation and self-pity. The process of self-justification is questioned. A change of roles can be observed in the primary group. The alcoholic's position of authority is questioned: this position is taken over by other persons, as a rule the spouse. The alcoholic falls into the situation of a 'ward' from whom lack of self-reliance and unreliability are to be expected. This first symptoms of disintegration of the primary group can be observed. A change of roles also commences in the small group outside the family (e.g. the work-mates); the relationship of trust and the alcoholic's authority are weakened.

The members of the group behave in an ambivalent manner on the one hand. Displaying solidarity with the person concerned and making 'rescue attempts' while on the other hand they began to project a negative 'alcoholic stereotype' on him.

In the chronic phase, the attitude of the alcoholic is characterized by resignation, self-pity and a feeling of isolation. He begins to understand the nature of his illness and to display a readiness to accept outside assistance. In the primary group, the switch to the role of 'ward' has been completed. The emotional estrangement of the other members of the primary group is well under way, as is the application of the 'alcoholic stereotype'. The members of the primary group now become increasingly ready to supply information on the behaviour of the person involved to outsiders. In the small group, too, the change of roles and the process of emotional estrangement have been completed. The application of a negative 'alcoholic stereotype' to the persons concerned can frequently be observed.

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PSYCHOLOGICAL ASPECTS

P. Fouquet

We all know that there may be various ways of reading the same text. Thus the problem we are discussing here, 'Psychological aspects', can, in my opinion, be viewed in at least two ways:

- the study and description of the deterioration or changes in mental activity in persons known as alcoholics - in other words, the consequences of the risks run and the routes by which they are reached.
- the study and description of any individual psychological or psychopathological predisposition which may at least partially explain the onset of an alcohol induced disease, or of any predisposition likely to preclude or slow down the onset of this condition. This amounts to the study of the psychogenesis of alcohol-induced diseases.

As far as the first point is concerned, Professors Kessel and Feuerlein have given an excellent introduction to the subject and shown the various stages leading, in the cases of some alcohol consumers, to a pathological condition involving mental deterioration. I shall simply make a few comments on the basis heterogeneity of the alcoholic population.

1. I am sure that we shall have little difficulty in agreeing with the following clinical observation; there are at least two routes to alcoholism. One, which I shall call 'Latin', is common to all the wine-producing countries. This is the 'alcoholitis' type - Jellinek's Delta type characterized by hyper-tolerance, regular daily consumption which is neither secret nor solitary over a period of 10, 20 or 30 years without ill effects; the characteristics of the second type, which tends to be Anglo-Saxon, are intermittent, irregular, solitary consumption with pathological drunkenness, etc. It is interesting that the choice of alcoholic beverage differs in the two cases. In the first case, environmental or socio-cultural factors influence the choice of certain drinks whereas, in the second case, it is mainly personal factors, very often neurotic and conflict-related (particularly in women) which play a decisive part. After a fairly long period of development, this heterogeneity is superseded by homogeneity as regards the symptoms i.e. pathological recourse to and dependence on alcohol. This brings us to the problem of whether it is methodologically correct to use the term 'alcoholics' in the first place. Is this not likely to confuse us from the outset (see appended table).

Elements in positive and differential diagnosis

Percentage and breakdown by sex	'Alcoholitis' types	
	0 45 to 50% of cases	
	0 1 to 5% of cases	
Age of Tolerance	Patients examined: after age 40	
Alcohol	Wine +++ . Beer ++ . Large amounts	
	In company.	
	Rare drunkenness	
	Taste for alcoholic beverages	
	Consumption daily and regular	
	No guilt feelings. Subsequent rationalization	
	Heredit y	Alcoholism in father
Family	Patient's wife often older. Large no. of children. Sex life often normal for a long time. Tendency towards jealousy.	
Course of illness	Starts at end of adolescence. Lasts 20, 30, 40 years. Either: stops spontaneously with onset of old age or : intolerance sets in: <u>either</u> slowly, in form of liver and digestive troubles, <u>or</u> suddenly: delirium tremens <u>or</u> gradually, progressing towards alcoholosis.	

'Alcoholosis' types	'Somalcoholosis' types
40 to 45% of cases	1 to 5% of cases
80 to 85% of cases	15% of cases
Between age 20 and 45	Between age 30 and 60
Preference for aperitifs, strong liqueurs. Moderate amounts.	No preference. Sometimes eau de cologne, methylated spirits. Small amounts.
Often alone and in secret	Always alone and always in secret.
Frequent and atypical drunkenness	Abnormal and immediate drunkenness.
Little taste, sometimes distaste	Habitual distaste, repulsion except during crises.
Consumption irregular. 'Dry' periods and drinking periods of several months. Dry periods increasingly rare and increasingly brief	Consumption purely intermittent. Brief crises lasting from a few hours to a few days. Compulsion
Clear guilt feelings. Attempts to combat the alcohol problem.	Very strong guilt feelings.
Nervous or mental illness in one parent.	?
Early marital troubles. Sexual problems.	If patient is O, spouse unaware of her illness for several years. Sexual problems.
Starts later. Lasts 5 to 10 years. Serious and precocious behavioural disturbances. Possible development towards mental illness.	Starts late. No fixed duration. Possible stage in development towards alcoholosis.

2. I should like to add to these descriptions a concept which might well be used - the idea of 'apsychognosis'. By this term, I mean a specific kind of mental destructureation resulting from permanent pathological ethylaemia, a subclinical condition which can develop over a period of 5, 10 or 15 years which the 'alcoholitis' types (Jellinek's Delta type) have in common. What strikes the observer here is firstly the subject's loss of the ability to look at, judge and assess himself and his general mental obtuseness. There are three other characteristics of this 'apsychognostic' condition: the appearance of instances of psychic reversal associated with lack of mental application and the long term retention and use of professional patterns of conduct and the possibility of reversing the condition when intoxication ends. In more simple terms, this is the very large group of individuals collectively known as 'excessive drinkers', who do not know that their condition is already pathological. This is where the problem of the invisible barrier between 'normal' and 'pathological' consumption comes in. At this point I should like as an aside to pose the question as to whether it is 'normal' for human beings to consume alcohol. The answer is, in the West, yes, elsewhere, no. In contrast, the clinical types displaying 'alcoholosis' are usually painfully aware of their pathological condition, but this is not enough to induce them to seek help. These comments lead on to the important problem of failure to seek help.

This is one of the major psychological aspects affecting the way in which help is given and determining its nature: even if there is no 'demand' because of 'apsychognosis' the health authorities should provide the 'supply'.

I come now to the second point. The concept of risk poses the question of vulnerability. Now, we know that resistance to risk varies from person to person, but how can this individual weakness in the face of the hazard alcohol be defined, pinpointed and explained?

It would be out of place here to review all the literature on this subject. All that can be said is that conventional psychiatric studies, inspired by psychoanalytical theory, the study of educational conditions, psychological mechanisms, longitudinal prediction or even constitutional (heredity) factors has not convinced us of the existence of one type or several types of specific potentially alcoholic personality. The only point on which the authors appear to agree (in all countries) is that statistically the proportion of alcoholics among the youngest children of large families is larger than among the oldest children. It should be emphasized that this correlation does not imply any particular causality.

Even studies maintaining that certain types of personality react differently to the effects of alcohol do not provide us with satisfactory answers. The few attempts which have been made to lay down rules about the personality of those who resist the risk do not add anything useful to this negative picture.

In reality, the constant interaction of individual psychological and physiological factors with social factors (ethnic groups, religions, standard of living, customs and traditions, etc.) means that we have to deal with all the parameters of epidemiology. To sum up, alcohol-induced diseases are located at the crossroads between two series of factors, respectively ecological and personal.

I would not wish to conclude this brief introduction without mentioning another facet of the problem, still within the context of the psychological aspects of the medical-social risks of alcohol consumption: taking into account age, sex, professional or social standing, geographical region, amount of alcohol available, etc., only 5-10% of adults (3/4 men and 1/4 women) react pathologically to alcohol consumption. Although this percentage represents a large number of sufferers, the fact is that 90-95% of adults not only appear to be immune from any risk but even appear to benefit from their alcohol intake. As far as public opinion is concerned, therefore, we are today in danger of coming up against substantial individual or general psychological opposition. It may appear paradoxical to refer to this particular psychological aspect at this meeting, but it should be mentioned.

In conclusion I should like to quote a passage from Jellinek to the effect that in social circles where only a low daily intake of alcohol is acceptable, only those individuals who, because of their extreme vulnerability, tend to disregard these social standards are at risk. On the other hand, in social circles where a large daily intake is acceptable, slight psychological or physical vulnerability is enough to constitute a risk.

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DISCUSSION

The role of the mass media in encouraging alcohol consumption was repeatedly pointed out. Speakers commented on the glamorizing of drinking in popular television and writing, and expressed particular concern over the influence of advertising of alcoholic beverages, which appeared both to recruit additional individuals to the drinking population and to increase the consumption of current consumers. The possibility of intervention to control excessive advertising was repeatedly raised. It was pointed out that in many other areas of health the liberty of the trader had been made secondary to the protection of the citizen.

The reversability of the psychological correlates of heavy drinking depended upon which features were being considered. Mood states, notably depression, usually improved with the cessation of heavy drinking. On the other hand, cognitive impairment, as revealed both clinically and by psychometric testing, sometimes took many years to improve, and some patients remained permanently damaged. Paranoid symptoms have a very uncertain prognosis.

The possibility that consumption of psychotropic drugs may vary in an inverse relationship to alcohol consumption was discussed, but it was generally agreed that there was no good evidence for any such reciprocal relationship.

It was well established that the suicide rate among alcoholics was much higher than in the general population. The notion of alcoholism as 'chronic suicide' was thought to have little merit.

LEVEL OF CONSUMPTION AND SOCIAL CONSEQUENCES OF DRINKING¹

Klaus Mäkelä²

In the following, I shall attempt to discuss the impact of the international trend towards an increasing consumption of alcohol on the incidence of adverse social consequences of drinking.

There is a plethora of studies and tracts to show that drinking, or heavy drinking, is associated with a wide array of pernicious consequences, and that the frequency of consequences is related to the overall level of drinking. But, if we want to ask more detailed questions about the relative impact of amount and pattern of intake, the social position of the drinker, and the control environment on the probability of different types of consequences, we have to resort to fragmentary evidence. This lack of evidence might be related to the tendency to conceptualize alcoholism as a complex entity. Actual heavy drinking and its various concomitants are often looked upon as equivalent indicators of problem drinking, and the majority of general population studies dealing with consequences of drinking seem to aim at determining the prevalence of problem drinkers (e.g., Manis & Hunt, 1957; Bailey et al., 1965; Mulford, 1964 and 1966; Cahalan, 1970; Blaney & Radford, 1973; Owens et al., 1976). Relatively little emphasis has been put on how the actual amount and patterns of drinking interact with environmental reactions so as to produce alcohol problems.

It has to be born in mind that even somatic consequences often seem to be more intimately related to qualitative aspects of drinking than to annual consumption per se. The risk of cirrhosis of the liver, to be sure, seems to be virtually unrelated to patterns of intake once the overall consumption level is given (Leibach, 1974; Schmidt, 1975), but a substantial part of the excessive mortality among heavy drinkers seem to be due to causes of death related to rather extreme acute intoxication (de Lint, 1976; Poikolainen, 1977). If this is the case for medical complications, the same is even truer for social consequences of drinking.

¹ This paper is based on a review article 'Level of consumption and social consequences of drinking', to be published in Yeady Israel, Harold Kalant, Robert E. Popham, Wolfgang Schmidt & Reginald Smart (eds.): Research advances in alcohol and drug problems, Volume IV.

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When the cultural setting is given, however, most measures of drinking style tend to be correlated with total intake. The fact that annual consumption and frequency of drunkenness are closely related may be regarded as trivial, but indications exist that qualitatively different and definitionally independent components also are positively correlated with each other. For instance, English students drinking frequently also tended to consume a greater amount per drinking day (Orford, Waller & Peto, 1974). Similar results have been obtained in the United States (Fillmore 1974) and Finland (Mäkelä 1977).

It should be pointed out that these correlations do not seem to be mere reflections of the fact that alcoholics drink heavily and frequently. Rather, the results seem to indicate that, in the cultures studied, the number of frequent moderate drinkers is so small that they do not have an impact on the correlation between the frequency of drinking and the amount of intake per occasion.

It seems, then, that given the cultural setting, frequency of drinking and amount consumed per occasion behave as though they were components of the same phenomenon, i.e., general involvement with alcohol.

Therefore, in each country we may expect to find a rather close correlation between annual intake and social consequences of drinking. The situation becomes more complicated when we move to international comparisons.

Cross-regional studies tend to exhibit rather strong positive correlations between average consumption and a number of health ailments related to alcohol, especially cirrhosis of the liver (see Bruun et al., 1975, 39-45, for evidence and additional references). This is contrasted by the virtual lack of conclusive regional relationships between average level of consumption and various social consequences of drinking in the studies made so far (Schmidt & Smart, 1963; Grosswiler, 1972; Room, 1974; Smart, 1976; Bunce, 1976; Bunce & Room, 1977). In cross-regional comparisons, cultural differences in both drinking patterns and social control seem to be more important than the average level of consumption.

It is evident that countries vary not only in the minute details of their control systems but also in their overall conceptualization of the societal consequences of drinking. It would seem that, in modern societies, three principal ways of formulating 'the social liquor question' can be distinguished (Mäkelä & Viikari, 1977). The consequences of drinking can be viewed primarily as a question of public order and security, as a problem of productivity or as a question of public health.

It is immediately clear that these cultural conceptualizations have an influence both on the experiences of individual drinkers and on official statistics on consequences of drinking. If alcohol is viewed as a problem of public order and security, the main responsibility for alcohol control falls upon the police and social authorities. If, on the other hand, alcohol is viewed as a problem of productivity, strict labour discipline is maintained and industrial alcoholism programs are launched, while the marginal alcoholic section of the population is liable to be forced to the Skid Row. If, again, considerations of public health are at the forefront, the injurious effects of drink are regarded as belonging to the field of operations of public health authorities. Correspondingly, individual drinkers become registered as a public nuisance, for their poor performance at work, or as patients at hospitals.

Babor and his collaborators (1976) compared two groups of French and American alcoholics getting treatment at special hospitals for alcoholism. The daily consumption was of the same magnitude in both groups. Still, 80 per cent of the Americans but only 40 per cent of the French reported that they had had trouble with the law. It seems, thus, that the judicial system plays a greater role in the control of drinking in the United States than in France.

This is an illustration only of the possibility that the same behaviors may lead to different control measures in different societies, irrespective of their objective societal impact. Moreover, the differences may still partially reflect residual variations in actual behavior. 74 per cent of the Americans reported that they had been drunk at least ten times during the previous year as opposed to only 44 per cent of the French (Babor et al., 1976). Also, the differences observed between the experiences of French and American alcoholics seem to persist when the corresponding ethnic subgroups are studied in the same control environment. Negrete (1973) has made a study comparing Anglo-Protestant, Anglo-Catholic, and Franco-Catholic patients of a residential treatment center in Montreal. The three groups rated as high on physiological symptoms of alcoholism, but they differed markedly in their experiences of social consequences of drinking. 74 per cent of the Anglo-Protestants and 57 per cent of the Anglo-Catholics but only 38 per cent of the Franco-Catholics had a history of police arrests.

These examples illustrate the importance of patterns of consumption as determinants of adverse social consequences of drinking. From this we cannot conclude that fluctuations of average level of consumption are without significance for the incidence of problematic consequences in any given country. Cultural variations in drinking patterns are based on lasting historical traditions, and they may well be resistant to a certain degree to changes in the level of consumption. To take a somewhat extreme example, we have no reason to believe that the French would start drunken fights should they lower their consumption to the same level as the Scots or the Finns. Conversely, it remains to be seen whether the Finns or the Scots stop fighting just because their average consumption is increasing. We know that the nearly universal trend towards an increasing consumption has been accompanied by an international diffusion of new drinking patterns, often thought to be less detrimental than the old ones. What is less clear, however, is whether these new patterns have substituted the prevailing habits in each country or have supplemented the old traditions as an additional layer of consumption.

Sulkunen (1976) has analyzed the changes of the level and structure of the consumption of alcohol after the Second World War on an international level. His data show that there has been an almost universal trend towards rising consumption. The increase has been fastest in countries with a low starting level. Consequently, the quantitative differences between countries have been diminishing. In addition, the qualitative differences in the structure of the consumption according to type of beverage have been levelling off, too. In countries where beer is traditional, consumption of wines and spirits shows the biggest relative increase; in traditional wine countries, the consumption of beer and strong liquors has boomed; and in countries formerly dominated by strong liquors, the rate of increase has been highest for the consumption of wine and beer. In most countries, however, the consumption of the traditionally dominating type of beverage has not been affected by the new drinking habits. On the contrary, in most countries the traditionally dominating type of beverage still accounts for the biggest part of the increase in consumption of alcohol, if this increase is calculated in absolute figures instead of in percentage terms.

Sulkunen's analysis of international statistics thus lends support to the addition hypothesis. It seems that new international drinking patterns are spreading all over the industrialized world, but they do not replace the traditional customs in different countries. Rather, they form a new layer of alcohol consumption atop of the regional traditions.

More direct evidence on this process is available only from some scattered studies, which may not be representative from an international perspective.

Ahlström-Laakso and Osterberg (1977) have made a detailed study of the consumption level and the frequency of various officially recorded consequences of drinking (e.g., arrests for drunkenness, crimes of violence, prosecutions for drunken driving, road accidents involving alcohol), in Finland, 1960-1975. They present an exemplarily careful discussion of a wide array of factors that might spuriously affect the statistical series under investigation, including legislative changes, fluctuations in the control climate, changes in demographic composition and structural changes independent of drinking. The end results of their analysis indicate that the rapid increase in alcohol consumption has been accompanied by substantial and real increase in consequences related to drunkenness. The implication is that drinking patterns have not changed as much as to compensate for the consumption rise.

Cartwright (1977) has compared the drinking patterns of two representative samples of the same London suburb, in 1964 and 1975. During the period covered, there was a 47 per cent growth in the average consumption, measured as the weekly number of alcoholic drinks. The number of drinking days did not, somewhat unexpectedly, rise. Consequently, the average consumption per occasion presented an appreciable increase. In harmony with this finding, there was a considerable reduction in the proportion of respondents reporting no alcohol problems. Also, arguments and fights with family and friends after drinking became more common in the second survey.

Sulkunen (1977) has made an attempt, based on historical studies and marketing reports, to reconstruct the changes in drinking patterns underlying the increasing aggregate consumption of alcohol in Britain, in the 60's. His general conclusions are worth quoting in some length;

'It seems, in the first place, that the changes in beverage structure that are related to the increase in overall consumption of 100% alcohol per capita are, as expected, underlied by a growing diversity in the drinking practices of the population. Clearly, new consumer groups with non-traditional tastes have emerged and they are becoming more and more important sales targets. Secondly, drinking takes place in new types of situations. At home in addition to outside the home; restaurants, hotels and entertainment centers in addition to the traditional pub provide new surroundings in which alcohol is drunk. Family is added to the types of company in which drink is normally taken, both in the home and out.'

'As to the cumulative nature of the process, it is obvious that the drinking of beer in pubs by working men is hardly replaced by these novel features of the British drinking culture. Neither does the sipping of wine, gin or whisky in upper and middle class homes seem to be a disappearing tradition. What might be expected is that when class and sex segregation are loosened and when young people are increasingly accepted in drinking situations, the traditional regular drinkers are found practicing their old enjoyments and sharing the pleasures of recent fashion as well.'

Much further research in various cultural settings is required to clarify the changes concomitant with the international trend towards higher consumption levels. It seems, however, that even if an increase in the consumption is accompanied by emergent and more diversified drinking customs, the new consumption is not unrelated to traditional patterns. At least a part of the increase tends to be consumed in more or less the same fashion as the earlier consumption. Therefore, potentially harmful drinking also tends to become more prevalent, whatever the characteristic consequences for each country and drinking culture might be. The rise in the social effects attached to the prevailing drinking patterns is, however, probably less than proportionate to the increase in aggregate consumption.

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SOCIOLOGICAL ASPECTS

L. Voyé

As the subject of this meeting is the medico-social risks of alcohol consumption, there is one risk which I believe should be emphasized more than any other. It is the fact that a large proportion of the population in most of our countries does not regard the consumption of alcohol as potentially dangerous or, even if they do, they see it only as a minor risk, possibly affecting others but not themselves, and believe in any case that the advantages of consuming alcohol - which are often purely imaginary - outweigh the disadvantages.

This favourable attitude towards alcohol consumption originates in the traditions, customs and habits in many of our countries where alcohol is presented as possessing many good qualities and beneficial effects. For example, it warms the body, refreshes the mind, induces self-confidence and allows one to assert oneself; indeed, there are many people who regard it as a miracle cure - a rum toddy combats flu, champagne helps the digestion, whisky is good for the heart and so on.

Moreover, the strength of this attitude and the persistence of these beliefs - often inherited from the rural past - are sustained by advertising which, either by recalling the old associations or by suggestion new ones, always links alcohol with positive symbols and value-conferring situations; in advertisements, it is implied that the feelings of power, happiness or wealth evoked by scenes of domestic warmth and refinement, exotic landscapes, haunts of the jet set, and moments of tenderness would all be incomplete without the presence of alcohol.

It seems to me that presenting alcohol in such a favourable light is especially dangerous since the campaign against alcoholism gives alcohol dependents in contrast a very degrading picture of themselves. It is a fact that many brochures issued by the associations responsible for this campaign contain texts and pictures emphasizing the various types of degradation caused by alcohol. In this connection, there is a well-known psycho-sociological law according to which people hate being confronted with any of their own weaknesses. To illustrate this point, I am going to give an example which may seem trivial compared with the problem under discussion but which clearly illustrates this law and its effects. In Belgium recently, a firm making hair-care products put a new shampoo on the market with a publicity campaign stressing that the shampoo was particularly recommended for various kinds of unhealthy hair. When the firm saw that their new product was not selling well, it put out new advertisements in which the same shampoo was recommended to

everyone who wanted to keep his hair healthy. As a result, demand immediately shot up. Is there not a parallel between these two kinds of advertisements one giving a positive and the other a negative picture, and the situation I mentioned a short time ago when I compared the content of advertisements for alcohol with that of the brochures used in the anti-alcohol campaign? If so, then one can quite reasonably expect that the alcoholic will decide to drink even more in order to forget the negative image aimed at making him give up alcohol, and in a desperate attempt to identify with the positive image which advertisements tend to say will be his if he drinks alcohol.

Having spent some time on discussing this first point, I would now like to take up Doctor Kessel's statement that the most important aspects of alcohol, both as regards causes and effects, are psychological. Although I whole heartedly share his view, I would like to stress that these psychological aspects are strongly reinforced by contemporary society; two processes are essentially involved, each of which makes psychological disturbances and hence alcohol consumption more likely.

Firstly, contemporary society lays stress on mastering things and on self-control; it does not like the weak and has no room for the timid. Moreover, due to this attitude, our society tends to pay much more attention to the individual and the way he shapes himself and his future than to his rehabilitation in surroundings offering protection, such as the family and village, which formerly provided him with security and status. Consequently, many individuals will feel incapable of fighting for their 'place in the sun' and, in preference to other alternatives, a certain number of them will resort to alcohol to compensate for their psychological and social inadequacies.

Secondly, this very same society pays an inordinate amount of attention to the external and visible symbols of equality. Survival no longer being his main preoccupation, modern man has a residue from his normal expenditure with which he can satisfy his various 'needs'; many of these needs are in fact artificial, created by the desire to reject social inequalities and at least to give the appearance of being endowed with the external symbols of a superior social position. These symbols are determined by advertizing and may include a car, clothes, the place where holidays are taken, perfume and, of course, alcohol, which in this context is assumed to confer status.

Just as my second point was based on an important statement made by Doctor Kessel, so is my third prompted by a suggestion made by Doctor Fouquet. Dr Fouquet has stated that we should probably talk about 'alcoholisms' rather than 'alcoholism'. I am wholly in agreement with this remark and would like to elaborate on it from a sociological point of view. Here, I think it is useful to distinguish between two factors which combine in different ways and occur more or less frequently, according not only to the country and region concerned but also to the particular social milieu. These factors apparently contradictory, are characteristic of contemporary society and particularly of urban life.

In fact, a town is both a place of isolation and anonymity (nowhere else is one as lonely and solitary as in densely-populated urban areas) and, at the same time, nowhere else are there so many opportunities for contacts of various kinds, each different in form and content. Moreover, it is also in towns that one sees the clearest distinction between public places (of unlimited access, visible and subject to restrictions) and private or semi-

private places (of limited access, largely or entirely free of restrictions and strictly reserved for one's extra-professional life). Expressed in a very schematic form, one can say that working-class milieux are characterized by isolation combined with cramped private space, leading to the dominant role of places that are public and subject to restrictions, whereas in middle-class and upper-class milieux there are more opportunities to enjoy the numerous types of social contact offered by towns and those concerned have at their disposal a whole range of private or semi-private places where their ability to act as they please is fairly considerable.

On the basis of this combination of two factors, some hypotheses may be advanced regarding the various kinds of alcoholism which occur in a society such as ours.

First of all, we might look at the vulnerable points of working-class milieux which enable alcohol consumption to become established.

The first 'void' that alcohol is sometimes called on to fill is that caused by the sense of isolation that working-class people experience in towns. In fact, except when they live in spatial groupings in which most people have known each other for a long time and lead their lives without being attracted by what is normally considered to be the 'values' of the world around them, it is these classes of people who feel most lonely in towns, for the latter fail to provide them either with the support previously given working people by village life or with the support of the neighbourhood which, in the early stages of the industrial revolution, was based on the solidarity of the uprooted and destitute. Drinking can then become a way of forgetting things or of seeking contact with others - or with oneself.

The second 'void' is created by economic constraints. There is no doubt that the standard of living in our countries has risen considerably and we are apt to think that poor people no longer exist. Although facts largely bear this out, it is nonetheless true that some social groups have such meagre incomes that they are virtually unable to save anything, and this economic constraint itself has a psychological effect in that it constitutes an obstacle to making long or even medium-term plans and forces one to live from moment to moment and day to day. It should also be pointed out that this psychological effect persists long after its economic cause has disappeared; this explains why workers who, either in their own work or via their parents, have become used to an income doled out piecemeal according to such very specific and concrete criteria (piece-work, or work paid for by the hour, day or week), are still not inclined to plan their spending now that they receive a monthly salary. In particular, economic constraints of this kind provide an explanation for certain kinds of alcoholism in public places. Consuming alcohol in a bar or pub involves the regular spending of many small sums in succession; this is more in line with the consumption patterns of this social class, which is not really capable economically or psychologically of 'building up reserves' (the latter being associated with buying single but expensive items and spending according to a plan). Moreover, the accommodation in a working-class milieu is very often cramped and ill-equipped and hardly allows people with contrasting habits (some people are noisy, others quiet) to live together; as a result, they look for an alternative décor and atmosphere elsewhere, notably in pubs and bars.

Last but not least, there is a third 'void', determined by working conditions which are frequently met in working-class milieux and which encourage drinking in two main ways. Firstly, drinking is so often associated among other things with the image of being an adult. Hence the saying, 'When you drink you're a man', i.e. you are a man when you are allowed to drink with other adults or your workmates and when you have learnt to hold your drink. Indeed, demonstrating one's ability to hold drink is still very often regarded as a 'rite' of introduction into working life (the same thing also happens very often in student life) and, subsequently, as a 'rite' confirming that one belongs to this same milieu. Secondly, the jobs of many workers nowadays are often repetitive and boring or consist of supervisory work with long periods of inactivity.

A research project investigating shift work which is at present under way in Belgium has shown, for example, that in electric power stations, where one team after another has to supervise instrument panels for 8 hours at a stretch, the heavy responsibility of the job does not preclude long periods of inactivity, due to the fact that the job itself requires few actions. The project has revealed that, especially at night, these periods of inactivity are taken up by various conversations, often laced with beer or, on some occasions, with wine. Thus the constant lack of manual activity, even when it is accompanied by a certain measure of responsibility, encourages those concerned to look for substitute occupations, one of which is drinking.

This brief discussion has described the ways in which alcoholism gains a hold in working-class milieux, where the scheme of daily life, as I have already said, is basically made up of isolation and a cramped private domain. I will now look at the special ways in which alcoholism infiltrates middle and upper-class milieux.

To begin with, there are two aspects of professional life which I believe are worth considering. First of all, the large size of firms, their mechanization and self-regulating management procedures have all led to a loss of emotional involvement in the firm. People say and feel that they are becoming less and less 'attached' to their firm, that they are less and less proud to have worked there for many years. This is particularly true of multinational companies which cannot lay any claims to having local roots or to being identified with a particular region, unlike those companies whose fate was bound up with that of the region, and vice-versa. I suggest it is this very feeling of solidarity that people have been trying to revive between Cockerill and the Liège area with slogans such as 'Liège is Cockerill, Cockerill is Liège'; this represents an attempt to create such strong feelings of involvement in the local population that the latter will put pressure on politicians in order to make them decide to save a firm presented as being indissolubly linked with the image and soul of the region. Since such 'spontaneous' processes of identification are often undermined by the new layout of the economic landscape, a firm will have to create new ways for its staff to identify with it if it wishes to attract loyal employees and encourage them to work, as it were, on their own behalf. This function is at present performed by many events such as award-presentation ceremonies, end-of-year cocktail parties etc., which punctuate work in firms and which all provide the opportunity to have a drink.

While events of this kind normally involve a large proportion, if not all, of a firm's staff, another practice has grown up in the last few years which involves only managerial staff. I am thinking of the dinners, business receptions, hunting and shooting parties and all the forms of contact

opportunities which, disguised as social occasions, have in reality an essentially practical purpose, i.e. to sell or buy a product or idea and to conclude a contract under the most favourable circumstances. The reasons for such practices are once again to be found in the features of our contemporary economic landscape and, in particular, in the great similarity both of the products that are made by various firms and of their target groups. In fact, whether they are television sets or cars, machine tools or electronic components, household appliances or building materials, the real quality and technical performance of the products are by and large the same irrespective of the firms which made them, and any differences are essentially concerned only with minor features largely relating to external appearance. Any choices then made will often be based on marginal factors, and will not be unaffected by various perquisites, among the most important of which are business meals and other social gestures.

These new forms of social occasion which play a part in the professional life of the middle and, particularly, of the higher social classes are also found in the extra-professional life of these social groups, especially when the latter lead an urban existence. In fact, one of the features peculiar to this way of life is the proliferation of small groups with very diverse aims. Whether they are bridge clubs or services clubs (Rotary clubs, Chambers of Commerce, etc.), political or sports associations, occupational associations, or circles and societies of every kind, all these small groups hold regular meetings which often provide opportunities to have a drink, if not at every meeting, then at those held to confirm one's membership of the group and to revitalize the group by demonstrating solidarity.

While belonging to such groups provides more opportunities for drinking - and, generally speaking, the higher one is in the social hierarchy the more 'obligations' of this kind one has - there is another feature typical of our society which also has the same effect, i.e. the increase in consumption of mass-produced appliances which enable one's living accommodation to be equipped with a whole range of instruments, so turning it into a sanctum where one can pursue one's private interests and receive guests out of working hours, telephones, television and hi-fi sets, projection and recording equipment are all factors which makes one's accommodation more pleasant to live in, but at the same time they often turn it into a place where alcohol is consumed almost daily. Thus drinking is no longer limited to public or semi-public places, but is invading private premises where, far more than anywhere else, it is not subject to any kind of restriction.

So much for the few reflexions that I wished to make as part of our deliberations on the medico-social risks of alcoholism. For some of you they may have raised two questions, and I would like to conclude by answering these briefly.

First of all, it may seem that I have spoken about new reasons for the spread of alcoholism rather than about its risks. In fact, it seems to me that these two aspects coincide precisely because the causes described tend to become accentuated and to trap one in a kind of vicious circle where, for instance, in order to escape from various problems of contemporary life or to meet the demands it makes on them as best they can, some people will take to alcohol, and thus be weighed down even more by their problems until the point is reached where they become outcasts. It seems to me therefore that the risk is connected with the causes, and even more so, with the increase in their number.

Secondly, the remarks I have made may lead you to wonder why, if they are justified, alcoholism does not affect everyone. The answer to this objection, I believe, is as follows: in a homogeneous society, various individuals will respond differently, in particular because their biological and psychological characteristics, and the combinations of these will prevent them from reacting in the same way to the same situation. And these diverse reactions can also be attributed to various socio-cultural factors, the most significant of which include the family, the local area, and religion. What I am trying to stress here is the extent to which alcoholism is a multifaceted phenomenon caused by not one but many factors, and calling as such for action on many fronts.

ALCOHOLISM AS A SOCIO-ECONOMIC PROBLEM

R. de Vita

(1) Alcoholism is a social problem of the most devastating kind (even more than drugs, about which so much is with reason discussed in Italy today). Mortality from it is also continually increasing in Italy, which seems to be the second European consumer of alcohol after France where habitual alcoholism is the most widespread.

Statistics are not very reliable, in that they are generally based on admissions to 'public' hospitals which only account for some of the cases. For example, many alcoholics, especially from the middle and upper classes, are admitted to 'private clinics'.

In many circles (range including socio-medical sectors) alcoholism is not seen as a 'problem' because the damaging effect of alcohol is hardly realized, as it emerges only over very long periods. In other sectors, especially in the working classes, alcohol is related to health, and it is even viewed as beneficial and is widely used even in infancy and adolescence. Hence, the scientific underevaluation of the problem is supported and substantiates an 'opinion' widely held by the population. This is a result of misguided health education and widespread stereotype beliefs which attribute to wine (which in large sectors is the only alcohol beverage known) a fundamental role in the treatment of various diseases and physical disorders, a source of energy and therapy (e.g. for colds, influenza, malaria, ...). The attitude towards drugs and alcohol differs in the social milieu with social tolerance being shown towards alcohol.

In contrast with this situation we are faced with a constant increase in the toxicity of the most common alcoholic beverages and a reduction in individual tolerance levels, thus making the path to real chronic intoxication shorter (where addiction, irrespective of whether alcoholism is or is not truly addictive, can be equated with psychological dependence.)

(2) From a sociological point of view precise causal relationships still cannot be found, since they are evolving continually, especially in a period of change and crisis like the present. An analysis must be undertaken without preconceived models and in various environments and situations where the problem is not only that of collecting data on alcoholics but also of eliciting the social opinion on such problems so as to pave the way for efficient action. National and international socio-medical authorities must be urged to obtain more accurate details on this problem along with its dangers and causes and to take appropriate measures.

Italy is in a special situation (very backward as regards studies of this kind and scarcely aware of the problem) because there is a high production and consumption of wine. This makes alcoholism a widespread phenomenon in all social classes and not, as in other countries, a phenomenon found primarily in professional and managerial circles.

Alcoholics come from all social classes, and hence the 'class' factor does not clarify this phenomenon and explains it even less, as has been illustrated by various studies.

The causes and forms if the phenomenon can be differentiated

The reasons for the increase in alcoholism are multiple: it must be analysed and solutions found at several, complementary levels, in particular

- (a) at the legislative level, primarily as concern the use, sale and production of alcohol, with a campaign against alcoholism and the advertisement of spirits in particular (involving multinational economic considerations) which falsely publicises the 'beneficial' properties of wine and spirits with a view to encouraging indiscriminate drinking.
- (b) at the medical level, both for prevention and therapy. Alcoholics must receive treatment (WHO campaign, 1952) but preventive action is indispensable if the phenomenon of alcoholism is to be controlled, and thus the social causes of alcoholism are on an equal footing with endogenous factors (such as psychopathic, or emotionally immature personalities, psychasthenics, the feeble-minded, etc).
- (c) at the social and cultural level, to explore the main reasons which are the most difficult to overcome. There must be a shift from individual causes (which are secondary) to social causes (which are primary) in order to eliminate the many mistakes made in anti-alcohol campaigns.

(3) ENDOGENOUS FACTORS OF HABITUAL ALCOHOLISM

- (a) alcohol as a defence against boredom, especially in leisure time, social anomia and solitude, in particular isolation in an urban context (alcoholism is also connected with processes of radical change and crises on a structured and a superstructured plane, such as the processes of industrialization and urbanization, the lack of a liberating social outlet, emigration), alienation, the futility of life and an intermingling of social-cultural and socio-economic conditioning. An individual faced with the impossible task of satisfying basic needs (be they material or social, or often both) believes that, albeit in a passive and alienated way, he uses alcohol as a personal escape route from that situation.

For this reason the problem of alcoholism cannot merely be turned into a medical problem (organic, psychiatric, psychodynamic); it is one of the contradictions of life brought on by predisposing environmental factors (the social context or the family) and mental predisposition.

Alcohol can therefore also be seen as a compensation for social frustrations.

- (b) Alcohol seen as a rejection of society and of one's own individual situation, an escape from reality and protest (where self-destruction is the extreme expression), avoidance of a painful and unpleasant situation and a general off-loading of responsibilities, the impossibility of refusal to change one's own subjective condition and to make an effort to change society.
- (c) Alcohol as an imitation of archetypal attitudes, of the behaviour group of a particular individual, which symbolizes in the alcoholic's eyes a superior social position.
- (d) Alcohol as an expression of one's own personality in connection with the belief that alcohol increases man's mental and physical capacities. Alcoholism as a confirmation of personality on which an alcohol ideology, involving its expressive use (as with drugs), can be constructed. It is an individual refuge from rejection and opposition to society, which displays a crisis of values, 'identity', integration or ideals that affects the individual experiencing society's general crisis, and a kind of consumer ideology.

We can speak of an alcohol subculture with its own symbols and values opposed to those prevalent in society. A 'negative identity' (Erikson) is created, an unconscious desire for destruction and self-destruction, a destructive utopia involving achievement and domination. It is an extreme form of 'autotherapy'.

Today, the danger (in this context alcoholism can be analysed together with the phenomenon of drugs) is that of intellectualization (above all among young persons and the upper and middle classes) of the use of alcohol as a pathway to liberation, with its own instinct personality and potentials, indeed as a life style.

The consumption of alcohol is an illusory and dangerous reply to the causes of isolation: in this sense a correlation can be found between alcoholism and socio-economic conditions, as experienced in a context of economic and social isolation and breakdown in personal relations, affecting young persons in particular, especially in cities, which is one of the reasons for the increase in juvenile alcoholism.

- (e) Alcohol as a pathway to social contacts. In cultural terms 'drinking' is also a means of establishing and experiencing social relations. There is a role of association, a life of acquaintances in pubs and clubs, a ritual, a strength of 'tradition', e.g. in public relations. This resorting to alcohol illustrates the difficulty of establishing direct human relations and the resulting dependency on media towards that end ('drinking together'), even if they are destructive and the person is aware of this.

'Drinking', however, becomes isolation for alcoholics even if they clearly realize this state of dependency, and their alcohol-based relations are only with pub and bar. There is a profound contradiction in alcoholism it being at one and the same time an instrument of contact and isolation, becoming a symbol and a source of guilt.

(f) Alcohol as a substitute for social conditions, for a free and creative life. It is connected with the type of work and working conditions (and particularly with the relationship between man and work, and with alienation and exploitation) although it is not correlatable to social class. For these reasons alcoholism is not reduced merely by improving economic conditions (though in this way its form changes); the problem is more general and involves considerations of essential values and of the 'meaning of life'. In general, the 'type of work' accelerates - rather than determines - the onset of the disease.

In this context alcoholism therefore also becomes an economic problem in that it saps human energy that could be used for economic and social purposes, and we can speak of the social cost of alcohol, expressed directly in terms of accidents or disease, and indirectly in terms of lower productivity and greater mortality... The attack on an individual's mental and physical health is also an attack on the community, for which the struggle to secure the individual's full physical and mental well-being represents a contribution towards increased production.

We can also draw attention to the problem of an alcoholic's family which is seen by some as a primary cause of the phenomenon. In my opinion, it is not a primary cause, the social environment playing a far greater part (many alcoholics are single), but only one of the causes of alcoholism; alcohol in turn is a secondary symptom of the family situation. A separate analysis must be carried out concerning female alcoholism (on which there is a deplorable lack of data and knowledge), especially amongst 'house-wives'. There is a difference between male and female alcoholism: in the latter the family definitely plays a far more important role than in the former. (Her family of origin, but above all her present family).

(4) SOCIAL TREATMENT OF ALCOHOLISM

Aid can be effective for habitual alcoholism rather than chronic alcoholism in which, by virtue of the progressive onset of metabolic disorders and deficiencies as well as anatomical and pathological damage, the neurological and mental impairment is already irreversible.

There is a need for:

- (a) prevention and health education, beginning in schools and continued by local health units,
- (b) identification of alcoholics who should to be sent to special out-patient clinics before recovery is impossible. Campaigns, debates and education itself are not enough, however, and efforts must be directed to both prevention and therapy, which must be undertaken in open programmes related to the area so as to safeguard the sick persons contact with society and avoid an alienation which would accentuate existing 'isolation' and might make it irreversible and in any event would 'intensify' the condition.

Action against alcoholism is therefore based on prevention, if we can assume that the remedy for 'alcohol dependence' is only 'not to drink alcohol' in excessive and hence dangerous amounts. To this and social rather than individual action is required concentrating on situations potentially predisposed to achieving this:

- (a) in preventive medicine;
- (b) socio-economic action;
- (c) action to promote social contact.

Individual help has little success; group therapy is also required, led by an interdisciplinary team which analyses the entire personal history of the alcoholic. Anyone who begins to drink has every motive and incentive to become dependent on alcohol.

Action must be taken to break down social prejudices and ~~make~~ make it understood that alcoholics are not socially dangerous persons (this is still a firmly established prejudice) who must be kept at a distance (family and society) but invalids. The alcoholic is a weak link in a chain. It becomes increasingly clear that alcohol dependence is not a vice, or a weakness, or an organic defect, but a serious difficulty, which is never or hardly ever discussed and overcome, in relating to others. Alcoholics know that 'alcohol is bad for you', but for them it is the only way of tolerating a situation which is otherwise unbearable and which existed before drinking becomes a habit.

Society must accept alcoholics as 'invalids' similar to other invalids, just as alcoholics must accept and establish relations of equality with other invalids (particularly when in hospital). There is therefore a need to overcome the process of criminality and guilt associated with this group, which accentuates the process of alienation, self-isolation and self-destruction, and hence the difficulty of finding alternatives to drinking.

Relations with the alcoholic's family must also be analysed, both as regards contacts between the alcoholic and his or her family and between the family and society. The alcoholic is often not the 'guilty party' but the weakest member of the family nucleus on whom the contradictions of the entire family are unloaded, and the family nucleus is itself a weak point in the broader context of society. There is above all an extremely dangerous process to be overcome of reciprocal guilt between alcoholics and their family. The whole family must therefore be assisted within the broader context of the society of which it is a part, and this assistance in terms of family therapy is established within the framework of relational psychology.

The problems of alcoholism in its various aspects (personal problems of the real or potential alcoholic, problems relating to the family and the social context) are not helped at all by moralistic or 'missionary' aid, such as that supplied by various groups and voluntary and charity associations. Public and social help is required, based on scientific and programmed data and a realistic campaign against alcohol dependence and its underlying difficulties.

We must create or develop structures promoting social intercourse, environments favouring personal relations recreation and sport, at school and local level, social centres which offer support and control at local level for both individual therapy and for prevention and family therapy.

It is very important for alcohol dependents to find a compatible situation (although one not having a nosographic flavour) in which contacts with others are really possible, based on a mutual relationship (alternative to 'pub-bar socializing').

In drinking there is a tendency for like persons to relate, and therefore such relating would also be useful in therapy. In this situation the sick person can find or recover an identity which is not that of the depraved and guilty alcoholic, but that of a 'man' with his problems and contradictions which he is trying to overcome in the company of other men, in which he finds reciprocal support to build up a rehabilitation process based on the acceptance of relations with others which are not necessarily mystifyingly instrumental.

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DISCUSSION

Many speakers commented on how deeply imbedded was the use of alcohol in European culture. One facet of this was the positive image given to alcohol consumption in popular programmes in the mass media. This positive delineation was further exploited by advertizers, whose vast expenditure on promotion dwarfed anything Governments could afford on health education. General concern was expressed at the possible damage to societies caused by the scale and skill of modern advertizing.

This led to a discussion of the need to investigate, control and possibly ban advertisements for alcohol. Concern was expressed that such constraints might be interpreted under current regulations as impeding the free movement of goods across frontiers. If this was so, then the health and economic policies of the EEC were incompatible.

Economic problems were also mentioned in connection with the heavy investment in wine production, especially in France and Italy, and the importance of viticulture as a source of employment. In all countries the manufacturers of alcoholic drinks were well-represented by powerful pressure groups opposed to any reduction in overall consumption.

Cultural and social factors were also of importance in determining which type of complication of excessive consumption was most prevalent in a given country. However, it was clear that it was the consumption of alcohol which was the chief determinant of the incidence of alcoholism whatever complication was considered.

ANTI-ALCOHOL MEASURES IN THE WORKING ENVIRONMENT

Dr J. Niveau

1. REASONS FOR EXCESSIVE ALCOHOL CONSUMPTION

Excessive alcohol consumption of a social origin can now be included among those causes of disease which have a neurotic or cultural origin.

This excessive consumption, which obviously leads to chronic alcoholism, is normally brought about by situations in which the individual feels impotent vis-à-vis the socio-cultural or socio-professional group to which he belongs.

The superego then becomes an intolerable burden and the individual tends to replace it with an alcoholic superego which raises his value in his own eyes - at least for a certain period - since it acts on his ego as a tranquillizer and frees his id of inhibitions.

We in the West are experiencing a new 'situation of impotence' in a particularly acute way as a result of the depersonalization of our relationships with authority and the tacit, diffuse, hidden, anonymous pressure which our environment now exerts on behaviour, while seeking to convey the impression that the individual is responsible for his actions.

As it is, the exogenous situation of impotence resulting from the way in which work is geared to mass production makes people today feel dissatisfied with, and indifferent to, the work they have to perform: manual workers have to do work which is either repetitive or has no obvious significance, while people who work with their brains have to bear the yoke of technocratic or, worse still, bureaucratic organizations. At the same time, all these people yearn for greater participation and increased professional responsibility.

As a result, in other areas of everyday life, especially family life, we often see these same people simply give up when faced with the difficult choices and decisions which modern life constantly imposes on them. They are incapable of facing up to their responsibilities, especially if they are deficient in intellectual qualities or their character is unstable.

This endogenous impotence might even lead some people - more than one would think - willingly to allow their fundamental moral beliefs to be determined by some new authoritarian and bureaucratic social morality, which would take over from the old obsessive and ineffective Judeo-Christian morality.

Therefore the weakest and, in particular, the youngest members of our society, being powerless to modify their behaviour surreptitiously and strongly conditioned by our way of life, undergo an identity crisis similar to that experienced in adolescence but aggravated by the fact that they are aware of their inability to reduce the image they have of themselves to a single ego in their existential make-up.

Thus many of our contemporaries are a prey to a real psychosomatic panic or a deep-seated anxiety which their instinct for self-preservation deals with by escape either to distant horizons where they hope to find refuge, or to the inner self, seeking solace in withdrawal, and peace with the aid of artificial tranquillizers.

And what is the best-known, the most reliable, the least harmful and pleasantest tranquillizer - the one which does not require a doctor's prescription and is found in the form of various 'healthful' drinks? The answer is: alcohol.

In fact, the identity crisis mentioned above is accompanied by a crisis in human relations. Almost inevitably, the 'who am I?' problem becomes linked with another: 'what can I do to be useful and appreciated?'.

Here, too, homo sapiens recognized his need to belong to a group of like-minded people speaking the same language and acting a similar way. He patiently constructed a complete system of communication and shared beliefs, involving ways and customs, religions, a consensus about the importance of work and the satisfaction it should provide, and a consensus about the value to be attached to feelings, people and things. 'Homo collectivus', on the other hand, repudiates this system on the grounds that he would never get back as much as he gave and that everything would cost him too dear in the 'currency' fixed by the previous generation.

Hence the temptation for man to find a new, 'cheaper' way to maintain contact with his group. While some 'avant-garde' people find that mood-elevating and psychedelic drugs sometimes enable the individual to regain a fleeting contact with his group, the way favoured by the majority which requires the least personal effort and expenditure of mental energy to reduce the distance between 'me' and 'them' and to experience that well-known postprandial communicative warmth is, once again, alcohol, in all its forms - aperitifs, drinks to ease the digestion, tonics, thirst-quenching drinks, brandies and liqueurs.

We shall see later that the whole purpose of the various abstinent's movements is to recreate this community spirit and reestablish a dialogue between the individual and the group by transferring to the latter the responsibility for making the initial contact and for making the efforts needed to maintain it. These are all things which the alcoholic, more 'let down' and isolated than he has ever been before, is quite incapable of attempting himself.

Thus, this brief analysis has shown that ethyl alcohol has gradually become part of the process whereby people adapt to their new circumstances.

Regarded both as an indispensable tranquillizer and as an existential stimulant - psychophysicologists would say it tends to reduce inhibitions - alcohol purports to offer a real remedy for the 'situations of impotence'

characteristic of our industrial society in its different versions, whether it be competition-based and elitist, as in the West, or dedicated to full employment and centrally planned, as elsewhere.

2. 'POLITICAL' ACTION ON BEHALF OF ALCOHOLICS

In order to set up a system of effective countermeasures, the following elements are required:

2.1. Public opinion

This will be shaped by the interaction of conventional discussion groups:

- (a) those in favour ('normal' drinkers, voluntary abstainers)
- (b) those against (alcoholic addicts and those who benefit financially from alcohol consumption or use it to gain influence);
- (c) those who are indifferent;
- (d) the trade unions, who have an important role to play in forming collective attitudes and publicity-expressed opinions;
- (e) a gentleman's agreement' between the occupational health services and the trade unions, who can come to.

Occupational physicians observe absolute discretion when alcohol is involved as a contributory factor in an accident. Since doctors cope with the problem in the short term, the trade union organizations should reciprocate by coping with it in the medium term i.e. by taking preventive measures.

2.2. A legislative body, in the form of a multidisciplinary working party.

2.3. An executive body, consisting of the medical services in undertakings.

3. SETTING UP A PROGRAMME OF COMPREHENSIVE ANTI-ALCOHOL MEASURES

What is needed is a set of medical (in the strict sense) and medico-social measures which provide several lines of defence for the alcoholic:

First line : preventive measures against pathological thirst;

Second line: early screening of excessive drinkers by the gamma glutamyl transpeptidase () GT test. Here the medical service in the undertaking performs the same rôle as the 'Centre d'Hygiène Alimentaire' (French nutrition centre);

Third line : detection of the disease by using the Le Go chart and the GT test. The patients would then be sent to the individuals or institutions that provided treatment (family doctors, hospitals, post-treatment centres and day treatment centres);

Fourth line: therapy for states of alcoholism which have gone beyond the chronic stage (see point 4 below).

4. OVERALL TREATMENT TECHNIQUE IN THE WORKING ENVIRONMENT

4.1. Psychological foundations

Gaining awareness

- adoption of docile approach to alcohol problem;
- restructuring of personality, recovery of self-confidence leading to resumption of responsibility for own conduct.

4.2. Direct therapy

Attendance at the Atelier des Travailleurs Désadaptés (ATD) (workshop for maladjusted workers) is reserved for persons who have had frequent relapses after undergoing courses of treatment in special centres or who have always refused to undergo such treatment.

A stay lasts for six months - one year. There are no hierarchy, no supervisory staff and no productivity norms. The work is organized by the occupational physician:

e.g. afternoon shift:

- 6½ hrs of actual work
- 1½ hrs of various types of therapy.

The physician is assisted by one or more specialized nursing assistants.

4.21. Occupational therapy

- three levels of difficulty in movements;
- three levels of responsibility.

Reassessment of work:

- (a) as a concrete instance of the relationship with authority. This relationship should not longer be experienced as a situation of impotence but as an expression of mutual trust and a prerequisite for efficiency. Thus the superego which relies on alcohol to improve its assessment of self can be replaced by one which finds good social behaviour rewarding;

(b) as a means of communication between the individual and his group;

(c) as proof that the individual has a useful function in his group.

4.22. Individual psychotherapy organized by the specialized physician.

4.23. Group sociotherapy

Groups of about 15 patients are formed and placed under an ex-patient who acts as an instructor-cum-group leader and works in close liaison with the doctor and the specialized nursing assistants.

These groups are open - the patients are able to come and go whenever they wish - and employ self-supporting techniques such as group dynamics, psychodrama etc.

4.24. Regulated exercises and massage (importance of the image the patient has of his own body, need to restore muscular function and appearance.

4.25. General hygiene (bodily cleanliness), mental health and nutrition.

4.3. Indirect therapy

4.31. Mornings

Individual self-training, abstinence training and reassuming responsibility for one's own conduct.

4.32. Afternoons

Group-oriented training, retraining for active life (social and professional).

4.33. Evenings and nights

Emotional rehabilitation (time spent with family and spouse).

4.4. Results

See attached graphs (gamma GT/absenteeism).

S C

Born 1936

Entered ATD 2 : 2.8.1976

Left ATD 2 : 1.7.1977

Absenteeism graph

Absenteeism in 12 months before admission Absenteeism from admission up to 31.12.1977

No of working days : 250

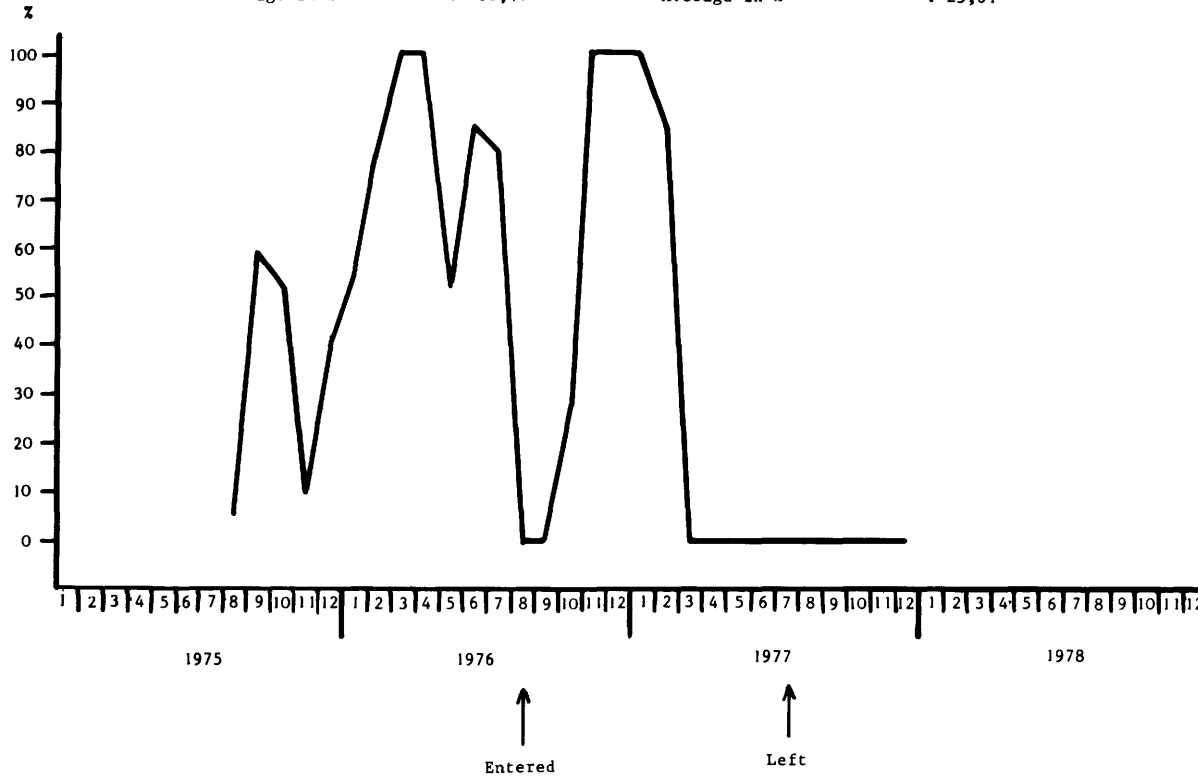
Absences : 151

Average in % : 60,40

No of working days : 363

Absences : 93

Average in % : 25,61



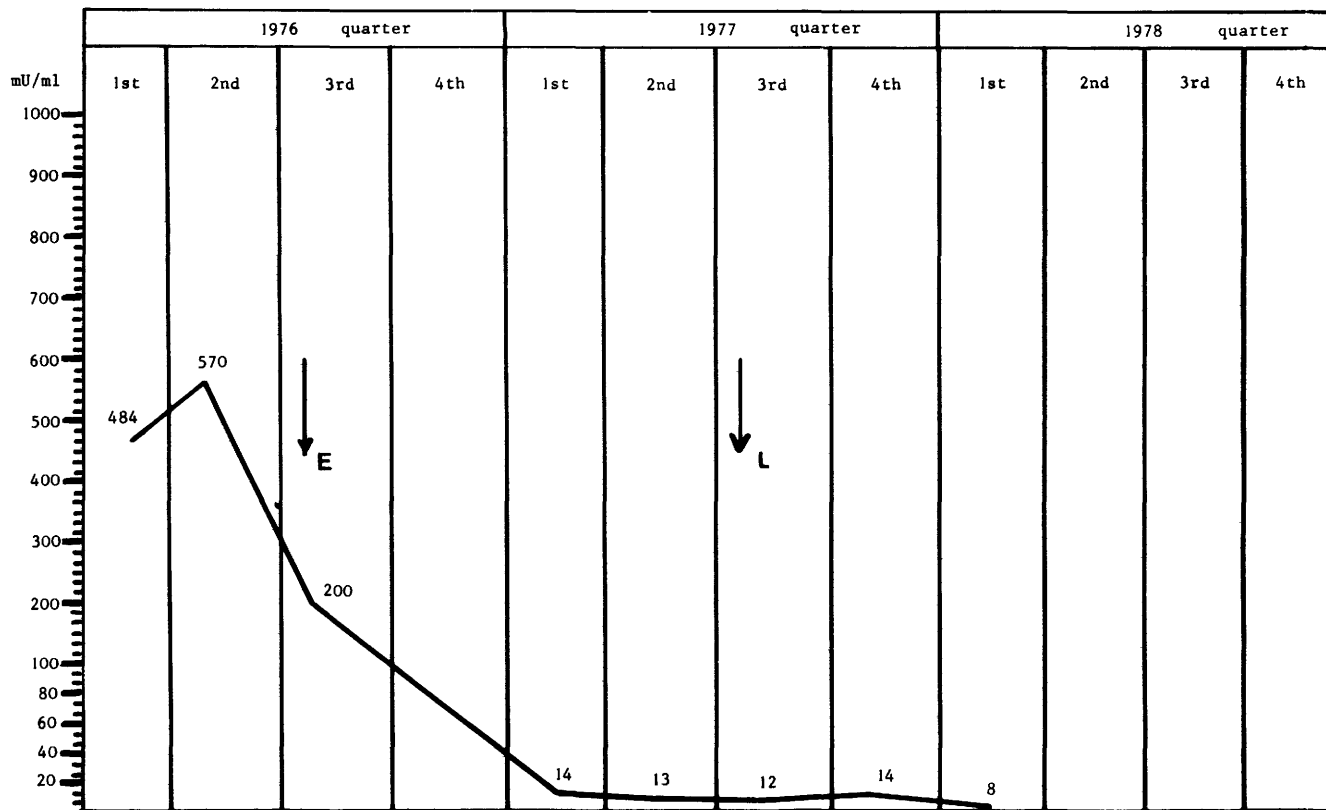
Gamma GT graph

S. . . . C. . . .

Entered ATD 2 : 27.7.1976

Left ATD 2 : 1.7.1977

Subject rehabilitated : instructor - cum - group leader in medical workshop



W. . . . S. . . .

Born 1929

Entered ATD 2 : 26. 8.1975

Left ATD 2 : 25.10.1976

Absenteeism graph

Absenteeism in 12 months before admission Absenteeism from admission up to 31.3.1977

No of working days : 251

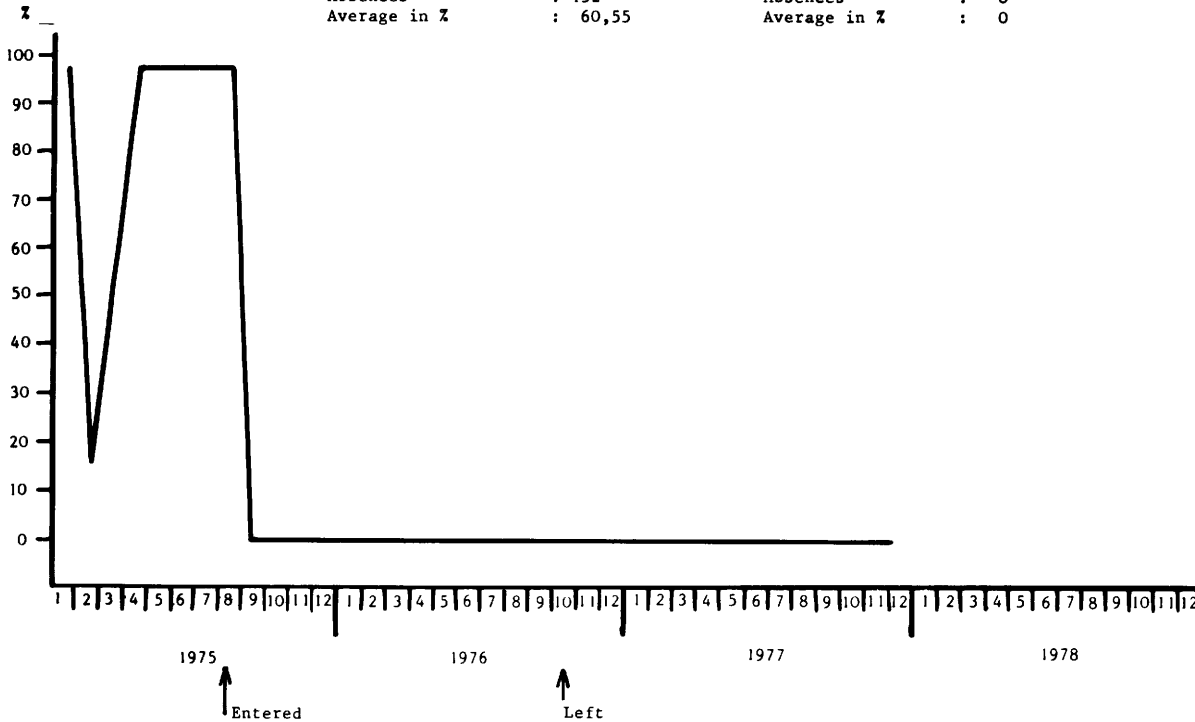
No of working days : 421

Absences : 152

Absences : 0

Average in % : 60,55

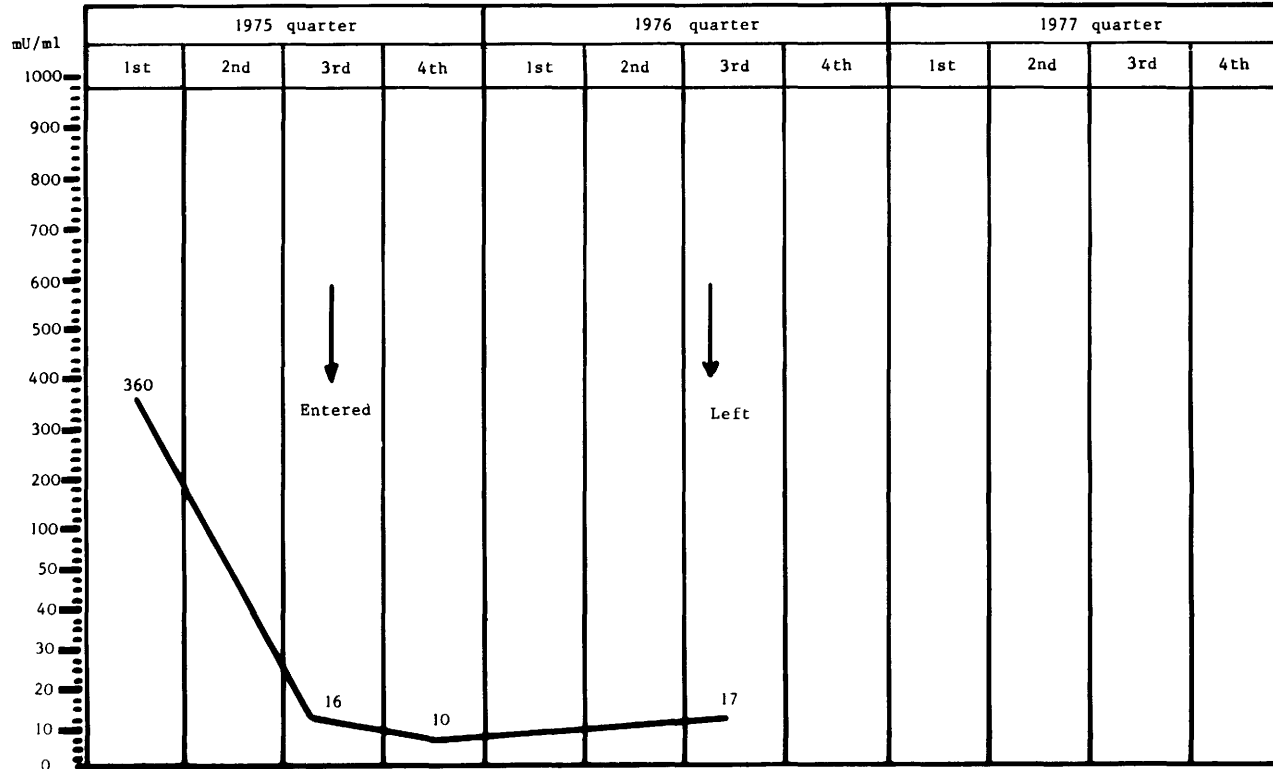
Average in % : 0



W. . . . S. . . .
Entered ATD 2 : 26.8.1975
Left ATD 2 : 25.10.1976

Gamma GT graph

Subject rehabilitated : packer at Jeanne d'Arc store



S. . . . J. . . .

Born 1933

Entered ATD 2 : 14.10.1974

Left ATD 2 : 14.04.1975

Absenteeism graph

Absenteeism in 12 months before admission Absenteeism from admission up to 31.12.1977

No of working days : 253

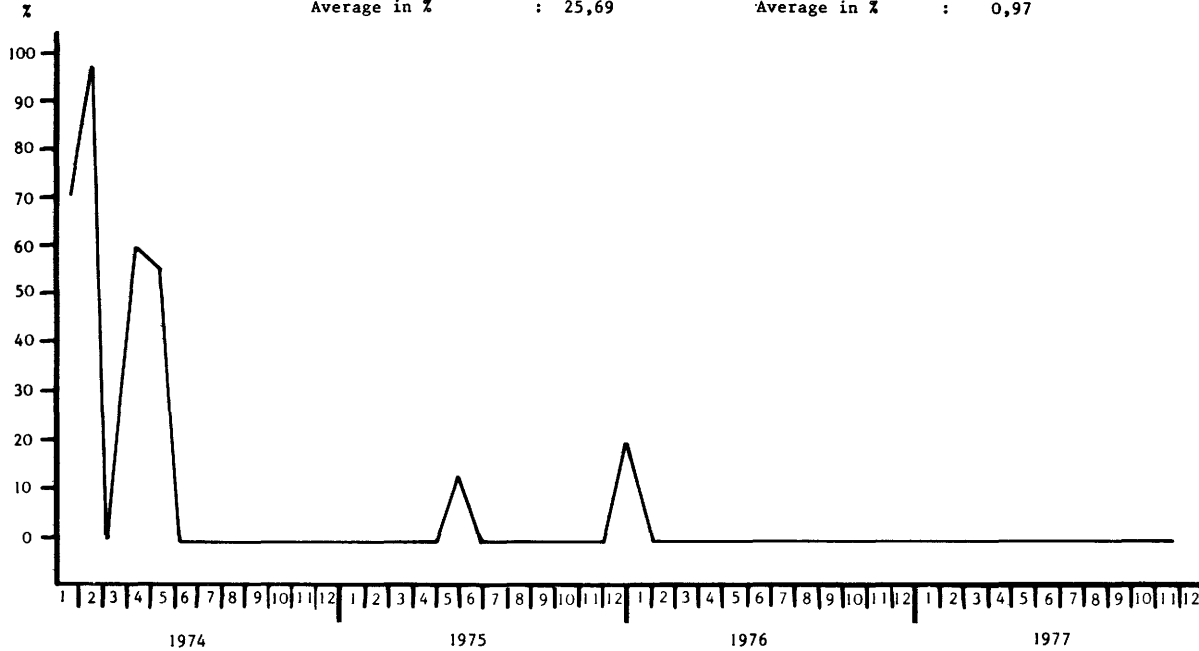
No of working days : 820

Absences : 65

Absences : 8

Average in % : 25,69

Average in % : 0,97



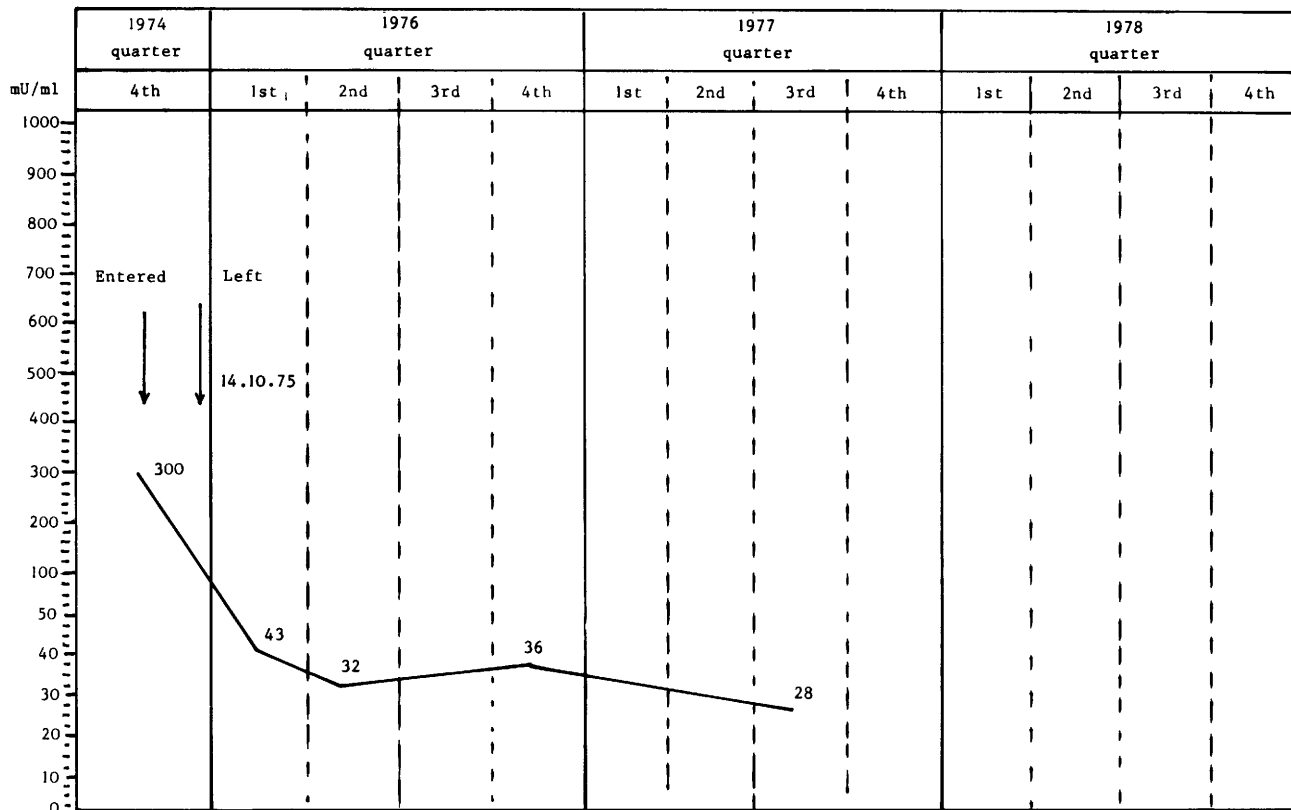
↑
Entered

↑
Left

S. . . . J. . . .
Entered ATD 2 : 14.10.1974
Left ATD 2 : 14.10.1975

Gamma GT graph

Subject rehabilitated : employee of fire and emergency station



S . . . H . . .
 Entered ATD 2 : 12.11.1974
 Left ATD 2 : 15.11.1975

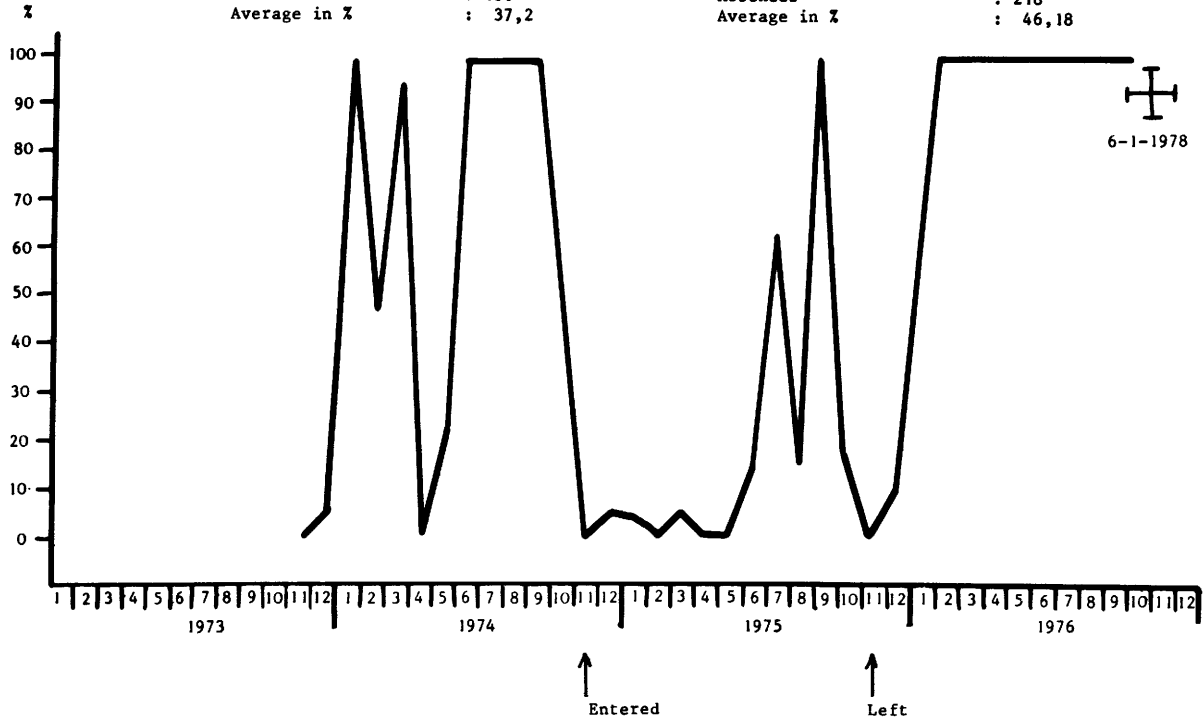
Absenteeism graph

Absenteeism in 12 months before admission

No of working days : 253
 Absences : 136
 Average in % : 37,2

Absenteeism from admission up to 31.10.1976

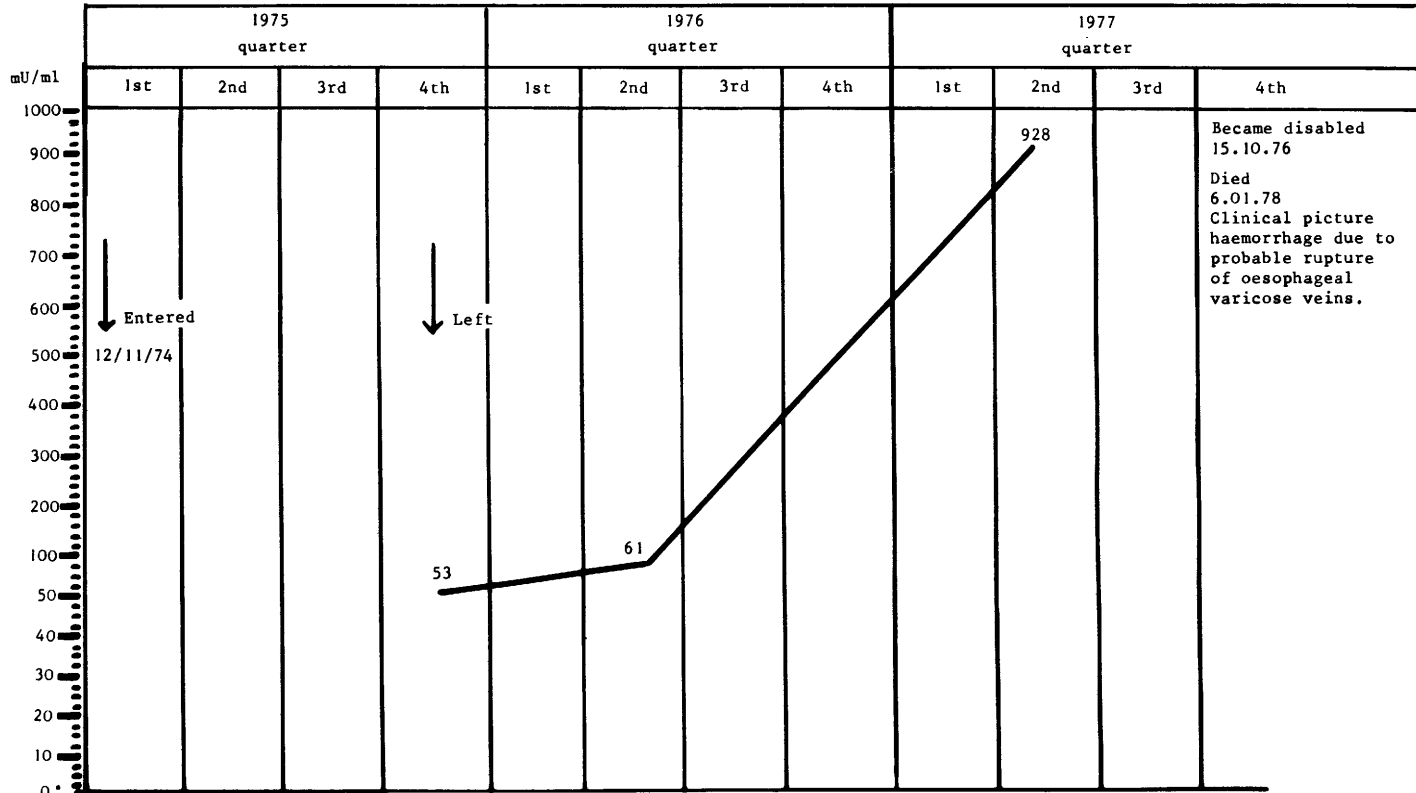
No of working days : 472
 Absences : 218
 Average in % : 46,18



Gamma GT graph

S. . . . H. . . .
 Entered ATD 2 : 12.11.1974
 Left ATD 2 : 15.11.1975

Subject rehabilitated : unskilled worker attending specialized workshop in Cuvelette
 (returned to normal working scheme due to refusal to accept treatment)



5. CONCLUSIONS

Industrial society and its working environment pose a threat, especially to vulnerable, maladjusted individuals who repress their feelings of impotence in certain situations and replace a socially negative superego with an alcohol-based superego which at first boosts their self-esteem but later becomes tyrannical and, ultimately, destructive.

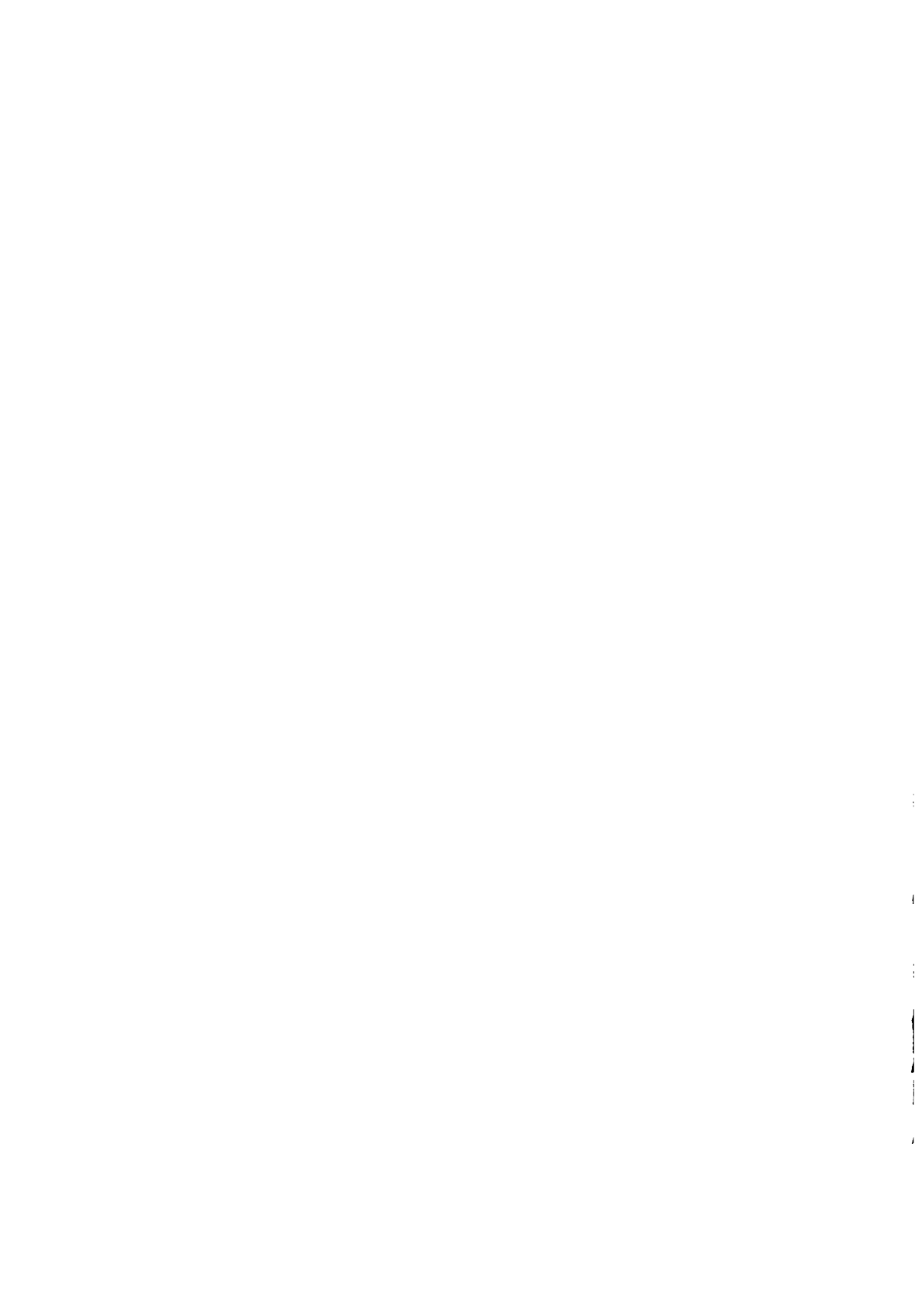
On the other hand, this working environment can be made therapeutic both for chronic alcoholics whose illness has a socio-professional origin and for other alcoholics, provided the undertaking introduces a set of anti-alcohol measures based on active prevention and on a programme of treatment which is graded so as to take in even the most serious cases - experience having shown that the latter need not necessarily be given up as hopeless.

17 November, 1977

SECOND SESSION

Compiling of information on risks

Chairman: Prof. Dr R.E. Moore



ALCOHOL CONSUMPTION IN EUROPE AND ITS CONSEQUENCES

J. Godard

International statistical information is now available on the production and consumption of alcoholic beverages and on the pathological conditions associated with alcohol.

Of course, the reliability of these data varies somewhat and all of them without exception underestimate the true situation. Moreover, the way in which they are collected varies considerably from one country to another; even the definitions of the factors being considered are not always identical.

Finally, it is recognized that misrepresentation in this field can be almost as widespread as it is with drugs.

The figures I shall be presenting are drawn mainly from the international statistics on alcoholic beverages which are meticulously compiled by the Finnish Foundation for Alcohol Studies and published by the European Office of the World Health Organization.

In our opinion, the main interest of this document is not so much to compare the results recorded in various countries as to examine the development that has occurred in each of them over a sufficiently long period. For this reason, our tables do not give annual figures but merely indicate the development by means of a straight line.

Most of the results relate to the period 1952 to 1972 since the figures for this period were easily accessible and an observation period of 20 years is long enough to give our observations some validity. The fact that we have not used more up-to-date figures does not, to my mind, cast any serious doubt on our findings. The more recent statistics in specific areas which have become available to us show that the same trend is continuing, and even increasing in some cases at a faster rate.

I should like to point out that one of the tables shows annual consumption per inhabitant, and not per adult, as the definition of the latter can vary from country to country.

After these few preliminary remarks, I now come to the main part of my talk.

A WORLDWIDE PHENOMENON

1. Since the end of the Second World War there has been a considerable and generalized increase in the production of the three main forms of alcoholic beverages, i.e. wine, beer and spirits. Beer in particular, the consumption of which is spreading at an extraordinary rate in Africa and Asia, appears to be mainly responsible for this massive 'outbreak' of alcohol consumption.

Thus alcohol, a major toxic substance to the white races, is spreading across the world, a disturbing and persistent concomitant of our technocratic civilization based on machines and profits, whether private or public, which all countries now take as a model.

According to the information we have, world production of wine amounted to 179 862 500 hectolitres in 1952 and to 283 824 000 hectolitres in 1972, i.e. an increase of 57.8%. During the same period the production of beer rose from 303 698 000 hectolitres to 688 580 000 hectolitres, an increase of 126.74%.

During this same period, the world's population increased by 48%.

2. This increasing quantity is accompanied by a slow but steady increase in the average alcoholic strength of beverages.

The ordinary 'local' wines which, as recently as the beginning of this century, contained between 7 and 10% of alcohol, have been replaced by dinner wines with an alcohol content of between 11.5° and 13.5°, for now, in spite of various prohibitions and regulations, chaptalization or sugaring, and industrially-produced coupages have become far too common. Finally, the price of ordinary wine is fixed solely according to its alcohol content, which is bad for the health and an offence to the palate.

Beers with a high alcohol content of as much as 7 or 8°, the so-called quality beers, are gradually replacing light beers such as those intended for family consumption in France which are disappearing from the market.

As for the spirits and distillates belonging to the group of beverages known as spirits or distilled liquors, their consumption is spreading rapidly and, in nearly every case, they are taken in addition to the more traditional beverages and not as a substitute.

3. At the same time, the cost to the consumer of common alcoholic beverages has steadily declined throughout the world since the beginning of the century when compared with the average hourly earnings of the normal workers, or with any other traditional social indicator, in spite of the heavy taxes imposed on a number of these products by governments.

4. Of course, numerous studies made throughout the world have demonstrated the pathogenic effects of excessive alcohol consumption.

Unfortunately, the methods and scientific accuracy of most of these studies are inadequate and they only confirm what common sense has known for a long time. Nonetheless, they are vigorously rejected by the producers and sellers of alcohol who energetically defend their own interests, grasping every opportunity to emphasize what may appear, at first sight, to be all-too-frequent inaccuracies, contradictions or even exaggerations on the part of those who are opposed to alcohol.

THE EUROPEAN COMMUNITY

Europe occupies, so to speak, a privileged position in this area.

According to certain sources, it produces 78% of the world's wine, production of which is growing at an average annual rate of 1.5%.

Moreover, Europe produces about 50% of all the beer in the world that is sold commercially.

These facts alone provide cause for reflection.

1. Figure 1 gives some idea of the growth in the production of alcohol. Due to the large amount of numerical data, we have used a semilogarithmic graph: it shows just a few particularly striking facts concerning the production of

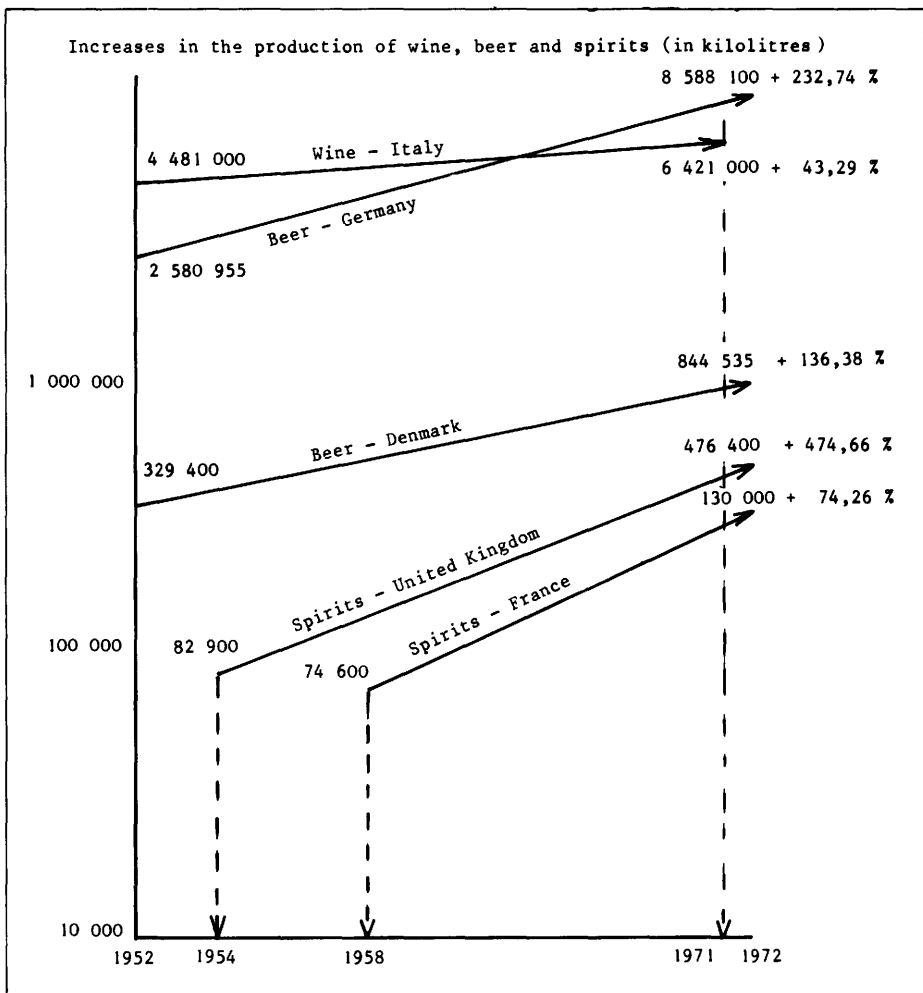


Figure 1

wine in Italy, beer in Germany and Denmark, and distilled beverages in the United Kingdom and France.

The objection sometimes made, i.e. that there has been a corresponding increase in population, has some validity but it does not account wholly for what has happened because the population in Europe increased by only 18.58% during this period.

2. Consumption has naturally followed the same trend (Figure II). This applies to all types of beverages (except for wine in France) and in particular to those coming from outside the country, thus indicating the existence of a very large international market; the latter, as we know, mainly involves the Community countries.

Growth in the consumption of certain alcoholic beverages in the nine Community Countries

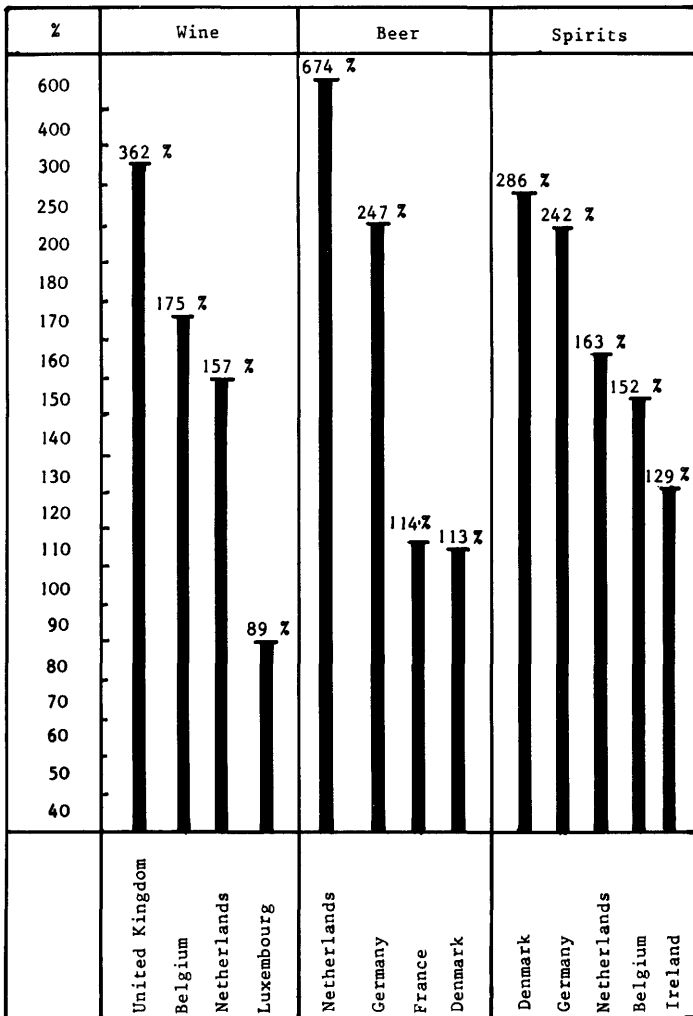


Figure 2

Here, the free trade area set up by the Common Market has undoubtedly contributed to the increase in the production and sale of alcoholic beverages, an increase with which public health measures have failed to cope.

3. Finally, the clearest evidence for an increase in the risk from alcohol is the annual per capita consumption of pure alcohol, measured in litres, between 1952 and 1972.

This overall rise in consumption is shown in Figure III, it is rather disturbing since, with the exception of France where consumption, although still the highest, is declining slightly the rates of increase are as follows:

Holland	276.47%
Federal Republic of Germany	182.50%
Denmark	133.33%
Luxembourg	69.11%
Ireland	66.66%
Belgium	45.41%
United Kingdom	40.81%
Italy	37.37%

How much longer can this go on?

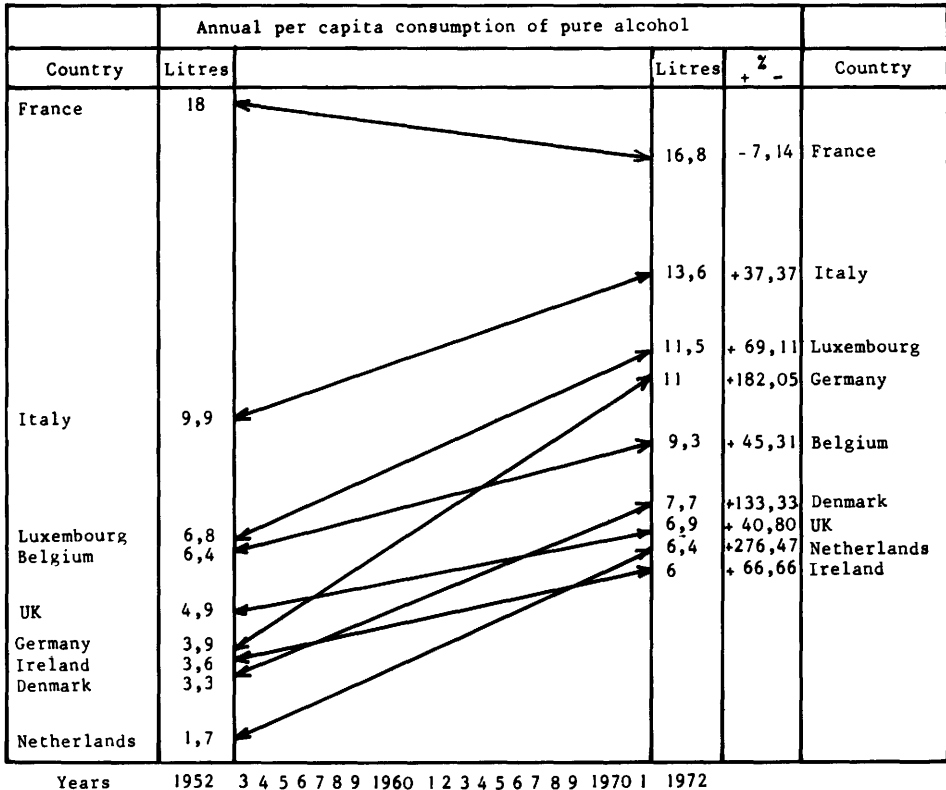


Figure 3

PATTERNS OF ALCOHOL CONSUMPTION IN EUROPE

1. A closer look at Figure III will show that as regards alcohol consumption the Community countries can be divided into three groups:

- (a) The Mediterranean or southern European countries, France and Italy, large producers and exporters of wine, whose own alcohol consumption, mainly of wine (70% in France), is very high. In countries outside the Community, the annual per capita consumption of pure alcohol is 12.4 litres in Spain, 11.7 litres in Portugal, and a similar amount in Greece.
- (b) The countries of continental Europe, medium or small-scale producers of wine (particularly white), but where nevertheless the main alcoholic beverage is beer. Belgium, West Germany and Luxembourg with their fairly high consumption come into this mixed category. Non-Community countries belonging to this group are Switzerland (10.8 litres) and Austria (12.4 litres).
- (c) The countries of northern Europe, which produce practically no wine but are large producers of distilled grain-based beverages and beer. Their average alcohol consumption is lower. This group includes the United Kingdom, Ireland, Holland, Denmark and, outside the Community, the other Scandinavian countries.

2. Traditionally there is a considerable difference between the patterns of alcohol consumption in the Mediterranean countries and in those of northern Europe while the intermediate group has something of both.

For the Mediterranean peoples wine-based beverages are regarded almost as a natural part of their diet. At least at the beginning of the alcoholization process, they are consumed daily during meals or at meal times (e.g. aperitifs, liqueurs), mainly in the form of wine.

That is why the most frequently observed forms of alcoholism are the beta and delta types as defined by Jellinek, or the 'alcoholites' (a medium-advanced stage of alcoholism) as defined by Fouquet. The individuals concerned are normally extrovert, easily tolerate excessive quantities of wine for a long time and only at a late stage exhibit pathological disorders, particularly of the digestive system, the most serious and specific of which is Laënnec's alcoholic cirrhosis. These people are also referred to as 'habitual' or 'social' drinkers.

In the countries of northern Europe, pathological alcohol consumption does not usually occur at meals and, at least at the beginning of the alcoholization process, is sporadic and does not occur every day. Here the ill effects are never the result of an unhealthy diet but of alcohol poisoning which normally develops rapidly. These are the alpha and gamma type alcoholics as defined by Jellinek or the 'alcooleses' as defined by Fouquet and in whom psychological and nervous symptoms predominate.

Of course, there are numerous intermediate forms which mitigate the possibly over-simplified nature of this classification.

3. However, the fact remains that in the predominantly wine-consuming countries where, according to a socio-cultural tradition going back centuries, almost everyone drinks at least some wine at the family meal (although it is very often diluted), the average rate of alcohol consumption would tend, quite apart from any pathological considerations, to be higher than in those countries where alcohol is consumed primarily outside the family context since in the latter countries, it is milk, tea or coffee that is traditionally consumed at home.

That is why we cannot unreservedly accept the World Health Organization's classification of drug dependence which includes alcohol among Group I drugs along with barbiturates and some medicines with sedative effects such as chloral or meprobamate (see WHO Technical Report no 516 - 1973).

This classification, drawn up by biologists and psychiatrists from northern European countries, does not have the universal character that one might have expected from a WHO publication.

It has totally ignored the very important fact that alcohol is a drug which acts as food, the only drug as far as we know whose ingestion provides the organism with calories; without denying in any way alcohol's psychotropic qualities, this gives it a specific character which is too often forgotten when it comes to prevention, diagnosis and treatment.

4. However, it is true that changes in social habits and, as it were, their internationalization mean that my previous statement has to be modified somewhat.

One fact which stands out is that the patterns of alcohol consumption in European countries are changing and, at the same time, tending to become more uniform.

Generally speaking the following phenomena - more marked in some countries than in others - are to be observed:

- (a) An increase in 'mixed' consumption. In other words, the northern Europeans are drinking more wine and the Mediterranean peoples more beer, not as substitute but as additional beverages.
- (b) A larger consumption of quality products, whose quality (and price), as I have already pointed out, correspond in the mind of the consumer to a higher alcohol content.
- (c) An increase in the consumption of alcohol by women and young people, symptomatic of a liberalization of our social noses which is by no means wholly beneficial.
- (d) A high incidence of multiple drug addiction among young people, alcohol often being used as a replacement drug when others are not available since it is the only major drug that is easily obtainable.
- (e) A more frequent consumption within the family at meal times or while watching television, whereas consumption outside the home, at work and in the café or pub, is tending to go down.

Of course these are only trends, but it certainly seems that the ostentatious alcoholism described by such 19th century authors as Dickens, Zola, Jack London and many others is gradually being replaced by something more insidious and neurotic which, in the final analysis, is no less frightening in its effects.

The form of alcoholism associated with extreme poverty and the lower working classes is gradually being replaced by a less obvious form of alcoholism associated with leisure and also with the upper strata of society which nevertheless reflects both the higher standard of living in Europe and the confusion of a civilization that has lost its way.

CONSEQUENCES OF INCREASED ALCOHOLISM AMONG THE GENERAL PUBLIC

In view of the growth in alcoholism among the general public in Europe, the question arises as to whether psychological, physical and social problems are also on the increase. That is to say, is there a positive correlation between the production of alcohol, the growth in alcoholism, and alcohol-induced disabilities?

1. As you know there are two conflicting theories here. Some maintain that excessive alcohol consumption is essentially the result of an individual's inbuilt predisposition, be it psychological or biological (or both), and that any preventive measures are consequently fairly pointless and any therapy a hit-and-miss affair. This theory, incidentally, receives a great deal of support from the producers and sellers of alcoholic beverages who conclude that 'normal' people should be allowed to drink 'normally' while at the same time setting quite high limits to this normality. For example, a French professional body has set this supposedly safe limit at 7 glasses of alcoholic beverages per day for everyone. As for those who become ill, the alcohol trade just says, 'Let the doctors take care of them'.

This attitude hardly stands up to examination when expressed in such a simplistic way but it nevertheless continues to exist in the subconscious minds of many people. Notions of sin or depravity (individual responsibility) and of defects (biological inheritance) are still very much alive among the general public and are even shared, more or less subconsciously, by many doctors.

On the other hand, some people think that there is an obvious relationship between alcohol production and consumption and the personal and social difficulties associated with alcohol.

However, this is not so easy to demonstrate since there are very many related factors to take into account.

2. However, in the 1950s, a French researcher, the late Sully Lederman, constructed a mathematical model that he called the 'Lognormal law of the distribution of alcohol consumption in a given population'. According to Lederman, this law would allow the percentage of excessive drinkers and hence the incidence of alcohol-related disabilities associated with alcohol to be calculated from the figures for average consumption.

In 1956 he showed that the various distributions of alcohol consumption among very diverse yet individually homogeneous groups of people confirmed his hypothesis and were comparable in form.

It should be said that this work was almost completely forgotten except in France, for the forefront of the international stage was occupied by the representatives of certain disciplines which tended to reduce such a complex phenomenon as the man-alcohol relationship to a mere problem of drug dependence.

It is only in the last few years, as a result of epidemiological and statistical studies carried out mainly by the research foundations in Toronto and Helsinki (both of which are represented at this seminar), the Lederman's work has been accorded due recognition.

Although I would be the last to deny that the increase in alcoholism among the general public, including that in Europe, is a complex phenomenon and that there is a multiplicity of factors to be considered, it is quite clear that the growth in production and publicity, and the opportunities (including financial) that everyone has been given of obtaining alcoholic beverages are by far the most significant factors.

These points are superbly documented in a small but very informative book entitled 'Alcohol control policies in public health perspectives' which was published by the WHO Office in Copenhagen and compiled by a working party composed mainly of Finnish and Canadian researchers. However, if I may say so it is regrettable that it is published only in English and that the numerous references it contains, except in two or three cases, are solely to English-speaking authors.

3. Be that as it may, I would now like to return to the main problem of concern to our present hosts, the Directorate-General for Employment and Social Affairs and, more especially, its Health and Safety Directorate, by examining very briefly the main medical and social consequences of alcoholism among the active population in our countries; I will discuss some points at greater length in the final text of this report.

(a) Morbidity

A few facts are now incontrovertible. One is that workers who drink excessively, whether they are alcohol addicts or not, are more frequently ill and their absenteeism is higher than in control groups.

The numerous studies in this area show how the weakening of the organism brought about by alcoholic poisoning frequently has serious consequences both for people suffering from influenza and those with fractured ribs, leading to pathological states of the most varied kind, not to mention suicides and homicides. Nevertheless, while maintaining the caution that this subject calls for, a highly positive correlation has now been established between alcohol and cancers of the upper airways and upper digestive tract (tongue, mouth, larynx, oesophagus), alcoholic cardiomyopathies and hypertension, peptic ulcers, various forms of pneumonia, pancreatitis and polyneuritis, accidents and, of course, cirrhosis of the liver.

I should add that the connection between alcohol and tobacco is particularly dangerous because it extends this list even further, bringing in tuberculosis, lung cancers, atherosclerosis etc.

(b) Mortality

Here, two facts have emerged: there is above-average mortality among middle-aged men (the statistics, of course, exclude deaths due to war and accidents). It is highest in those countries where the consumption of alcohol is greatest. Middle-aged men are particularly affected; a study I made in an iron and steel works in the east of France in 1950 showed that 50% of the staff who died before retirement age, whatever may have been the recorded cause of death, were excessive drinkers or alcohol addicts.

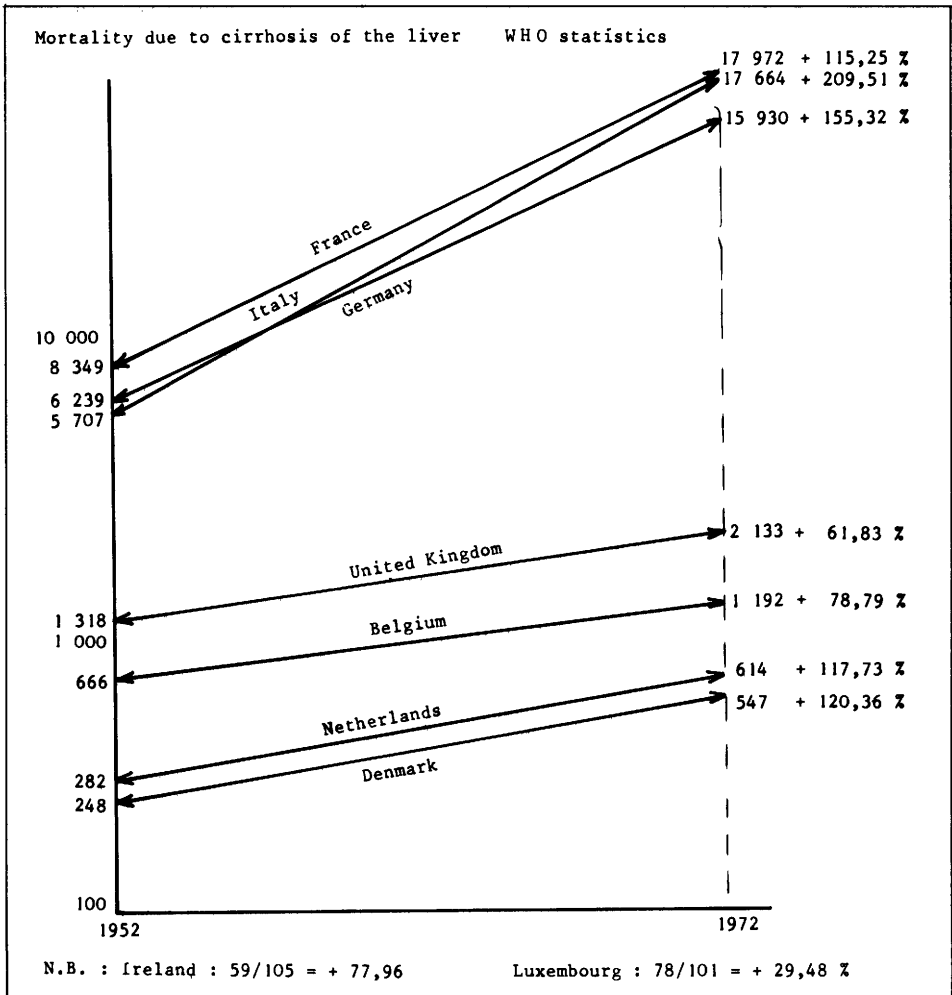


Figure 4

A study carried out in 1972 by my fellow-researchers using the same methodology arrived at a figure of 43.3%. A re-examination of all the recent epidemiological data would confirm whether or not the situation has remained unchanged.

As for cirrhosis of the liver which, together with chronic alcoholism, is the only cause of death attributed to alcoholism in the official statistics, Figure IV shows how it has progressed in each country. A more detailed presentation of this figure would be helpful, as progression is not strictly linear but has been presented in this form here for the sake of simplicity.

Another classic example of the correlation between alcohol intake and mortality due to cirrhosis by the French tables showing the number of deaths due to cirrhosis that have occurred in Paris since 1905 (Figure V). The effects on these figures of two world wars are clearly shown.

In fact, the above-average mortality due to alcohol is considerably underestimated. Perrin, in France, has shown that it is at least twice as high as the official figures (Table 1). The same is true of morbidity. There are many doctors who are not yet accustomed to studying alcohol-related disease in a systematic fashion. As far as I know, only Dr Le Go in France and Dr Feuerlein in Germany have suggested methods for the systematic detection of the various types of deficiency associated with alcohol.



Figure 5

(c) Accidents

Whether these occur at work, on the road or elsewhere (e.g. burns, falls, injuries not received at work), alcohol is clearly a contributory factor. However, it is difficult to demonstrate a link between accidents and the availability of alcohol, although the breathalyser test has proved to be a useful deterrent. Meticulous observation carried out on a quasi-experimental basis is still lacking, however. The recent work of Got and Thomas is therefore of particular interest.

What we do know is that any relaxation in the law is accompanied by a renewed outbreak of cases of drunkenness, traffic accidents, etc. The recent experience of our Finnish and Swedish friends confirms this.

(d) Premature decrepitude and invalidity

As an occupational physician, I believe this to be one of the most obvious features of chronic alcoholism and one of the heaviest burdens that the community has to bear. France is a case in point; le Go found that 38% of railway employees retiring prematurely had been invalidated out due to alcoholism. My fellow-workers and I have found among workers in the iron and steel industry a very high level of alcoholism in 30% of those who retire prematurely.

(e) Finally, excessive drinkers disturb social, professional and family life, since alcohol is responsible for many phenomena such as lawbreaking, rape, criminal offences and serious marital and family problems.

CONCLUSION

In this short paper I have tried to show that:

1. There is a rapid and large-scale growth in the production, sale and consumption of alcoholic beverages in the EEC;
2. It is very probable that this will be accompanied by an increase in alcohol-related disturbances affecting the individual and society;
3. However, because of the multiplicity and interrelation of the factors at work, it is often difficult to demonstrate this relationship;
4. More research must therefore be carried out in this field in order to examine the usefulness of various anti-alcohol measures, the effectiveness of which is still apparently uncertain at present; if necessary, new measures must be introduced;
5. It is very much to be hoped that the Commission of the European Communities, in cooperation with governments and other international bodies, particularly in Europe, will draw attention to this phenomenon and, by using its own special powers in various ways, will help to reduce the pernicious effects of alcohol.

Table I

Estimated mortality due to alcohol in France in 1974

Alcoholism	3 674
4/5 of cirrhoses of the liver	13 670
4/5 of cancers of the mouth and oesophagus	11 716
1/3 of tuberculoses of the respiratory system	885
1/2 of homicides	210
1/4 of suicides	2 018
1/3 of road accidents	3 682
1/10 of other accidents	2 482
	<hr/>
Total	38 337

Official statistics relating to alcoholism take account only of the first two items.

(table compiled by Paul Perrin)

EXPERIENCE WITH THE HOSPITAL TREATMENT OF ALCOHOLISM

M. Verbanck, I. Pelc, G. Stoffels¹

Consumption of alcoholic beverages in Belgium has increased in recent years. The sales of wine, spirits and distilled alcohol have increased most proportionally but beer remains the main source of alcohol for our population (Figure 1).

A good number of doctors, faced with alcoholic patients, adopt an attitude of discouragement and fatalism. At the very most they admit that these patients require psychiatric treatment. We were convinced that this passive attitude was not justified and that the problem of alcohol should be approached by a multi-disciplinary team which would be able to tackle the medical, psychiatric and social aspects of alcoholism.

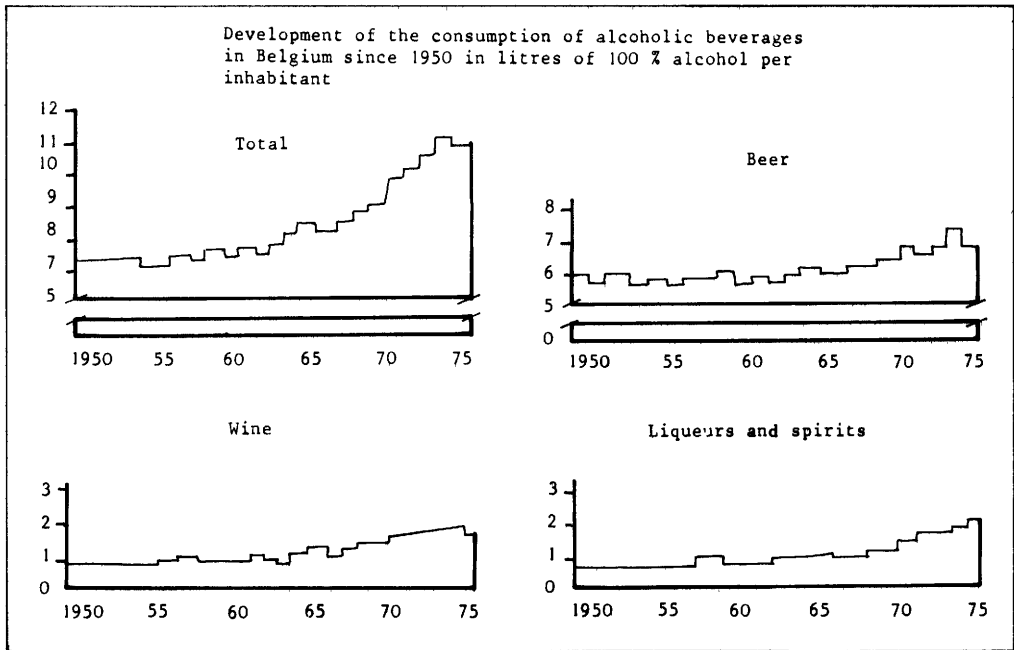


Figure 1

¹ Brugmann University Hospital. Free University of Brussels.

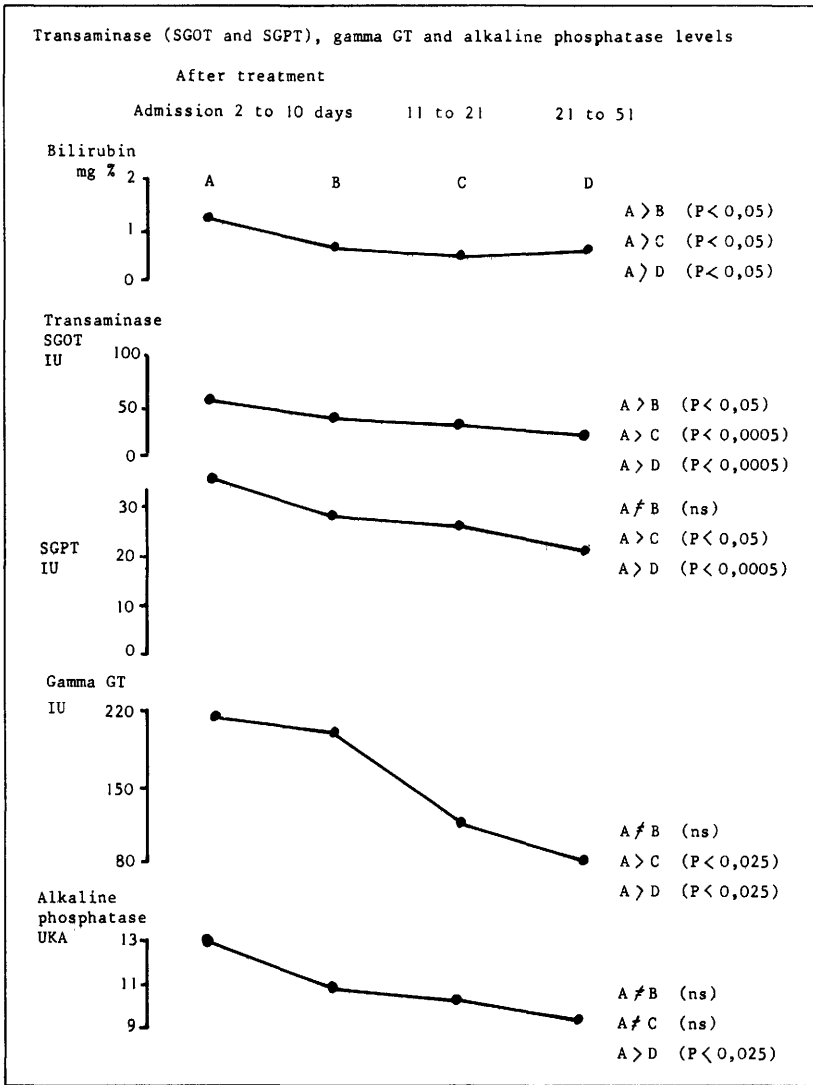


Figure 2

PROGRAMME OF TREATMENT

Admission

Since 1971 we have been admitting alcoholics who have agreed to undergo treatment to an internal medicine department of a general hospital. All were pharmacologically dependent on alcohol but systematic use of an adequate doses of a substitute pharmacological agent, diazepam, effectively prevented withdrawal symptoms.

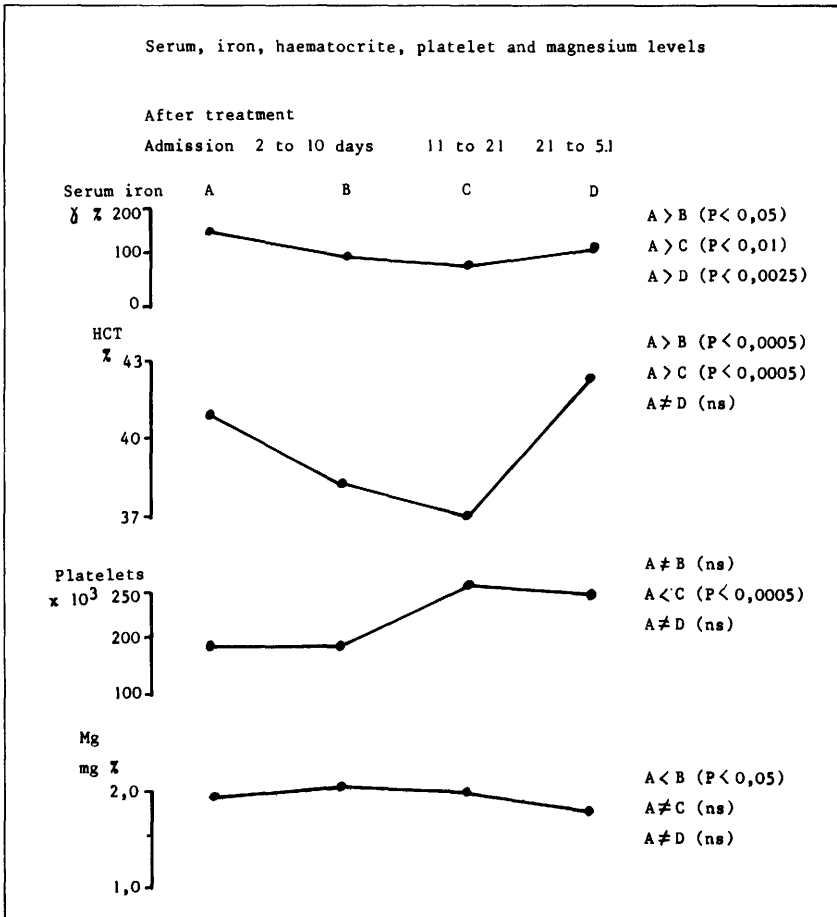


Figure 3

Every member of the team involved is fully informed about the methods of treatment for this illness and is ready to receive patients at any time of the day or night. The permanent presence of a house physician, an internist and a psychiatrist in the hospital makes it possible to modify the basic treatment programme if necessary.

When an alcoholic patient is admitted, the team members endeavour to establish a relationship of trust with him.

The patient and his family are informed about the investigation and treatment programme and the procedure for subsequent check-ups. This involves:

- a short stay in hospital one month after the main treatment has been completed,
- regular outpatient observation.

The importance of the support which may be provided by the family is not underestimated.

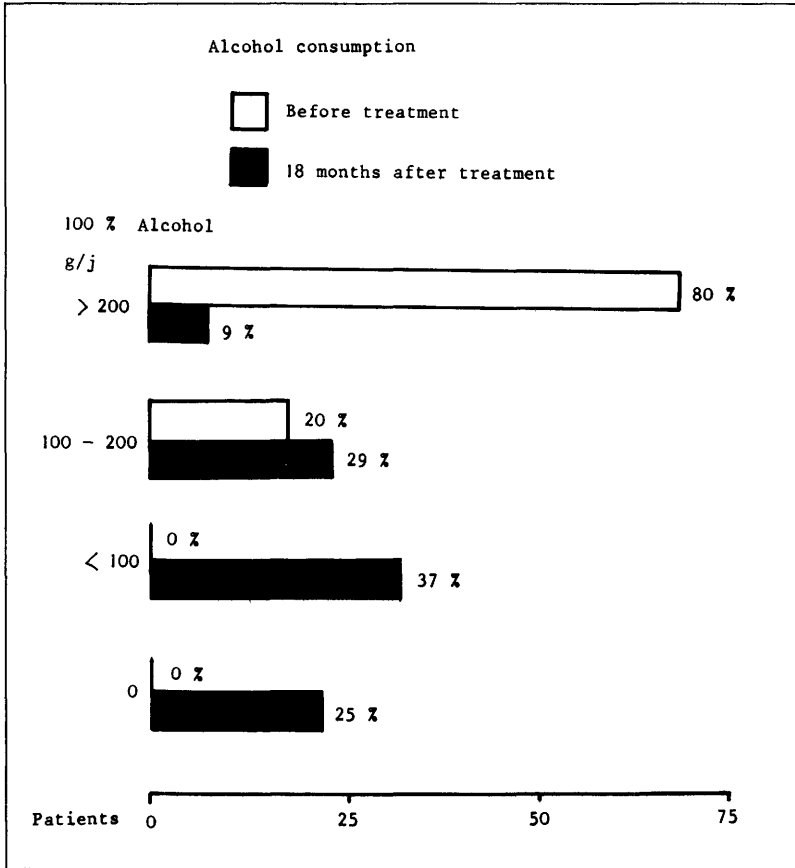


Figure 4

Assessment by patients who have received treatment

We felt it would be useful to know the opinions of patients who had received treatment of the type described above. 99 patients were contacted and it was possible to interview 86 of them, i.e. 85%. Seventy-three found that alcohol deprivation during treatment had not been distressing. Almost all considered that their stay in hospital had made it possible to check their state of physical health and 3/4 found that they had been helped psychologically while there. Finally 31 patients saw their stay as the starting-point of an improvement in their social and family situation.

Biological tests

Blood samples were taken at fixed intervals, the first less than 24 hours after admission. The results of the various analyses were compared as treatment progressed, and showed that certain biological values undergo a characteristic development as abstinence continues. We noted very significant variations in the bilirubin, transaminase (S G O T, S G P T), gamma GT and alkaline phosphatase levels (Figure 2). Serum iron drops, haematocrit develops

in two phases, probably due to initial haemodilution, the platelet level rises and so does the magnesium level (Figure 3).

Our observations also show that alcohol has a metabolic effect on lipids and uric acids and is responsible for deficiencies, particularly of folic acid, in addition to its toxic action on the liver and bone marrow.

Results (18 months after admission)

(a) Development of daily alcohol consumption (Figure 4)

Alcohol consumption generally develops very well after treatment. When they were admitted, 80% of the patients were consuming more than 200 g of alcohol per day; the proportion dropped to 9% after treatment. 29% nonetheless continued to consume distinctly excessive amounts (between 100 and 200 g/day), but the majority drank only moderately or had become completely abstinent.

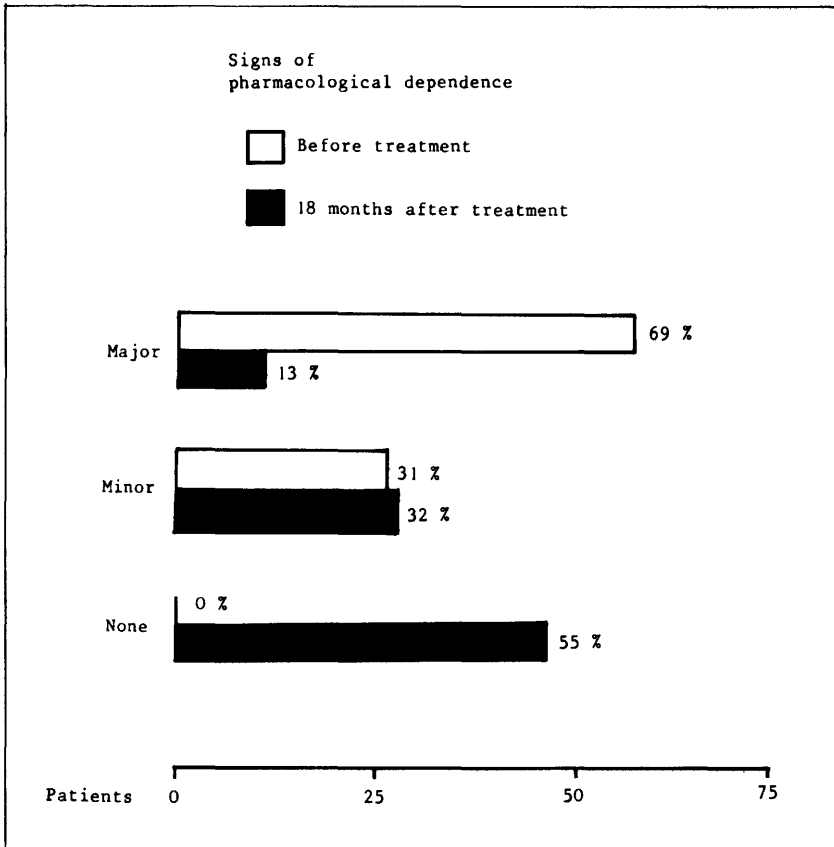


Figure 5

(b) Development of pharmacological dependence (Figure 5)

At admission all the patients presented signs of pharmacological dependence to varying degrees, while 18 months later 55% of them were normal, 32% displayed minor signs and only 13% still showed major signs of psychological dependence, signifying a relapse into alcoholism.

Because of the consequences of alcoholism on family and occupational stability, we decided to assess these factors some time after hospital treatment. Four degrees of psycho-social adjustment were defined, ranging from a normal situation to the loss of family life and employment. The medico-social survey carried out among patients and their close relatives showed that, 18 months after their initial stay in hospital, development was generally favourable since social adjustment had improved in 30 patients and had deteriorated in only 8 (Figure 6). If the situation on admission is normal or only slightly impaired, the risks of deterioration are low. However, when it comes to non-active patients who are often reduced to living like tramps, the possibilities of improvement seem very low.

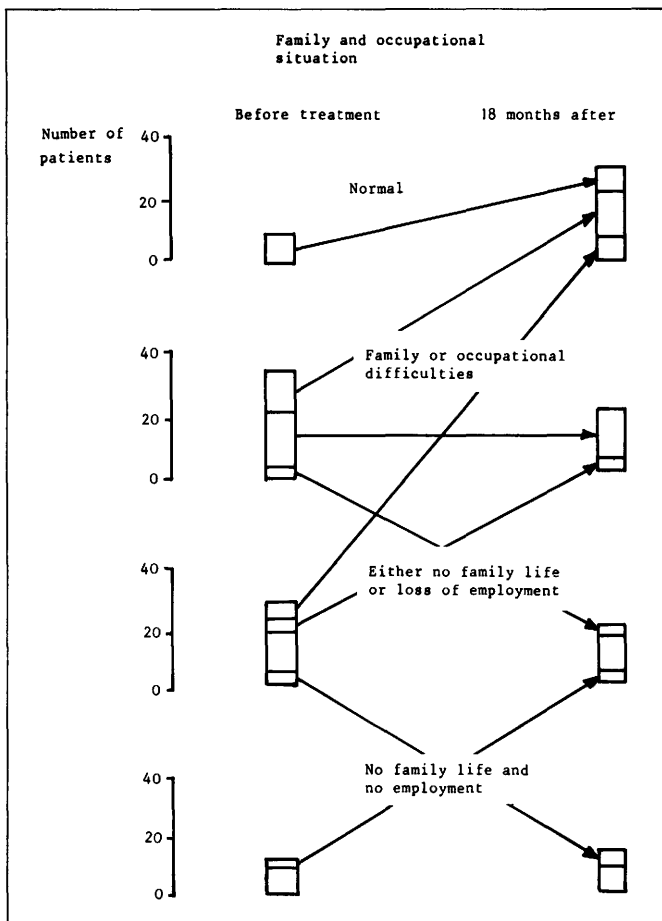


Figure 6

Factors for prognosis of psychosocial adjustment

We looked for correlations between the characteristics of the population of patients studied and the level of psychosocial adjustment achieved 18 months after admission. This analysis provided factors for prognosis which may be classified in the following order:

- the quality of psychosocial adjustment at the start ($P \leq 0.001$). If it is good, the risks of deterioration are very low,
- the duration of alcoholism ($P \leq 0.005$).

The shorter the duration, the better the prognosis, which is distinctly less favourable for alcoholics of more than 10 years' standing ($^2 P \leq 0.01$).

- the physical condition on admission ($P \leq 0.005$).

The psychosocial situation is unlikely to improve in subjects who have major somatic disorders when they are admitted. The following factors, however, do not influence the psychosocial prognosis of the alcoholic: age, sex, educational standard, occupation, presence of functional problems on admission, daily alcohol consumption.

Study of factors for the prognosis of psychosocial adjustment shows that alcoholism should be treated as early as possible.

CONCLUSIONS

Care of alcoholic patients by a multidisciplinary team was favourably accepted by the patients and their family, as shown by the fact that 85% of them cooperated in our psychopathological investigation.

The results of treatment seem encouraging. Indeed, one year after hospital treatment, 55% of our patients are free from signs of alcohol dependence; this is very high compared with the rate of spontaneous cures which does not appear to exceed 10%.

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Travail réalisé avec l'appui du „United Fund of Belgium".

SPECIFIC SITUATIONS DENMARK

P. Schiøler

In Denmark, the average consumption of pure alcohol per person over 15 years of age is 12 litres per annum (1976).

It has been estimated that approximately 96% of all Danes and other persons resident in Denmark 15 years and older consumed some quantity of alcohol. This amounts to 3.97 million Danes. Of this 96% of all persons over 15 years of age, some 8%, or approximately 360 000 persons, account for half of the country's total consumption. In approximate figures, this amounts to 22 million litres of pure alcohol, or a consumption per person of 61 litres of pure alcohol per annum or 150 g per day.

Earlier reports suggested that approximately 200 000 Danes drink excessively, but there is not sufficient scientific evidence for this conclusion. However, it is a fact that approximately 10 000 persons are treated for the effects of alcohol use each year in the Danish out-patients' clinics. Alcohol is referred to in the diagnosis of approximately 40% of all male patients admitted to Danish psychiatric departments and hospitals either as a principal or secondary cause of the admission.

In all, approximately 30 000 cases are treated.

If we accept that few persons are treated other than those who drink excessively and are harmed by the consumption of alcohol, then we can conclude from these figures that approximately 5% of all persons over the age of 15 drink excessively and that 5-15% of these persons obtain treatment.

In Denmark in 1965 the total individual consumption of pure alcohol per inhabitant was approximately 6.5 litres. Consumption has therefore increased by approximately 85%, i.e. almost doubled during the last decade.

The number of deaths due to Laennec's cirrhosis of the liver in 1975 was 150, which is about four times as many as in 1965. This is regarded in Denmark as a serious problem. The number of fatal cases of Laennec's cirrhosis of the liver, about 25% of all liver cirrhosis cases, is a negligible factor when compared with the chief causes of death. The total number of deaths per annum in Denmark is approximately 50 000, of which 2 600 are due to lung cancer. Figures for heart diseases and circulatory disorders are much higher, as are those for industrial and road accidents.

A more accurate analysis of the situation is virtually impossible since data are not available on a large number of factors such as the breakdown of alcohol use by age, sex, occupation and social status.

We know that young people drink more openly and sometimes more aggressively than they used to. They may also drink more than they used to, but there are no data on this.

We know that women are drinking more, but we do not know how much. However, since women account for at least half of the total population, even a large percentage increase in total national consumption would not necessarily indicate a marked increase in individual consumption by women.

The last 10-15 years have witnessed an intense advertising campaign for red and white wines and certain aperitifs. The wines concerned are often cheap and of poor quality. After we joined the Common Market there was of course no reduction in the sales campaign.

One result of this is that the Danes, who previously were mainly beer drinkers, now think it socially improving to have wine on the table. It seems that the wine does nothing to reduce their thirst, since there is no corresponding reduction in the consumption of beer.

As Dr Godard pointed out today, this is a development in the consumption of alcohol which involves both an increase in consumption and a distinct change in drinking habits. Such development is considered dangerous in Denmark. Our concern stems from our conviction that a population's pattern of consumption provides certain safeguards. Because of the chemical nature of alcohol, which has an intoxicating effect and can be dangerous for certain organs, a normal population adopts a number of responsible and sensible attitudes to its alcohol consumption. We think we have identified a number of general characteristics and tendencies in the population's attitude; we see the relatively low number of cases of damage as evidence of the general sociological rule that those who observe most of the widely accepted customs and unwritten laws are only harmed under exceptional circumstances.

On the other hand, the few who habitually disregard one or more of these standards often suffer as a result. This view has had a marked influence on the planning of our preventive measures.

The concept of damage we have used here is defined in accordance with traditional Danish preventive policy in relation to social and health matters. While organic damage is evidently not a common occurrence it is becoming increasingly clear that the other consequences are very serious:

Alcohol-induced social or psychological damage has not yet been adequately explored but it is already clear that it is one of the commonest reasons for which individuals are helped by public assistance bodies.

Time does not allow me to enlarge on this situation.

In conclusion, I shall deal with one aspect of Danish thinking on the problems of alcoholism.

Because of the serious social effects which alcohol-induced damage has in our country, we prefer that solutions to the problems of alcoholism should be provided by the social security and welfare system which is the central feature of Danish society.

This system may be restricted or delayed because of economic difficulties, and adjustments to the system may occasionally be necessary if it appears to produce consequences or unsatisfactory results.

The basic attitude is however logical and consistent. Denmark does not wish to exert more pressure on its citizens than is necessary to guarantee social security and health, the preservation of society and the protection of private property.

As a result, the problems of alcoholism are not dealt with by means of legislation aimed specifically at the prevention or treatment of alcohol-induced damage. The necessary restrictions are to be found in customs, licensing and police regulations, supporting legislation in the social and health sectors, preventive measures in the Education Acts, legislation on recreation facilities and on the environment etc. In Denmark we think this is sufficient and do not want to add to increase the number of restriction.

Another notable characteristic is the caution shown in Denmark when attempts are made to strike a balance between the abundance of readily accessible 'hard' data, such as prevalence and frequency distribution - including the precise quantitative details given in the statistical results - and the 'soft' data, extremely difficult to obtain, which deal with the essential nature of the damage and the effect it has on the victim, and cannot be expressed clearly in numerical terms.

It is of course very necessary to strike such a balance if a coherent policy is to be devised to deal with legislation, information, preventive treatment and reintegration of alcoholics, based on uniform criteria which take account of society's economic and political situation and development.

We wish to base our policy of prevention mainly on the general public's common sense, this being in our view a potentially more effective weapon in the long term than, for example, swingeing price increases.

In Denmark the public awareness of alcohol problems is based on the point of view that human dignity, not a person's role in society are the foremost considerations.

THE PROBLEM OF ALCOHOLISM IN THE FEDERAL REPUBLIC OF GERMANY INCLUDING WEST BERLIN

W. Holzgreve

Alcoholism has roughly quadrupled in West Germany in the last 20 to 25 years. Even though alcohol consumption and drinking habits cannot in themselves provide conclusive evidence for the prevalence of alcoholism, it remains undisputed that a direct connection exists.

1. ALCOHOL CONSUMPTION

The trend in per capita consumption measured in litres of pure alcohol was as follows:

1950 :	3.27
1960 :	7.79
1970 :	11.39
1975 :	12.40
1976 :	12.34

The decrease from 1975 to 1976 is entirely accounted for by the decrease in consumption of spirits, while the consumption of beer and wine further increased. Beer is still the most popular drink of the 'man in the street' in West Germany. The per capita consumption in litres was as follows:

1950 :	38.1
1960 :	95.6
1970 :	141.1
1975 :	148.1
1976 :	151.3

In 1976 a total of 35 400 million DM (equivalent to about 15 000 million dollars) was spent on alcohol in the Federal Republic including West Berlin.

A third of the West German population accounts for over two-thirds of the total consumption, a similar figure to that found in Switzerland.

2. DRINKING HABITS

According to the latest surveys (Infratest study on alcohol consumption and abuse among men and women aged between 20 and 64 years, Feuerlein et al.) about a half of the West German population drink alcohol daily or several times a week (47%; 65% of men and 29% of women). Only 6% can be regarded as total abstainers.

60% of the population prefer beer, and 39% drink it regularly. 14% drink wine regularly and 21% are regular drinkers of hard liquor.

The highest beer and wine consumption is found in the 30-39 age year group. The highest spirits consumption occurs in older groups, the 40-49 age year group for men, and the 50-59 age year group for women.

By comparing present-day drinking habits with surveys carried out in 1967, we can establish the following about developments over the last 10 years:

- 2.1. the figure for regular and frequent drinkers increased significantly from 38% to 47%;
- 2.2. the figure for total abstainers remained about the same (5% and 6% respectively);
- 2.3. the figure for regular beer drinkers rose slightly from 36% to 39%;
- 2.4. there was a large increase in the number of regular wine drinkers, from 5% to 14%;
- 2.5. the figure for regular spirits drinkers rose from 13% to 21%.

The drinking habits of young persons are apparently becoming more and more like those of adults, since a growing number of young persons are 'discovering' alcohol as - so to speak - the drug which society is prepared to tolerate.

3. ALCOHOLISM

According to all the latest surveys (the above-mentioned Infratest study, a supplementary survey by Feuerlein in 1976, analyses of trends from 1973 to 1976, and the statement of the Federal German Government in answer to a Parliamentary Question in September 1977) we have to reckon with at least 1.5 million alcoholics or persons seriously at risk of becoming alcoholics, equivalent to about 2.5% of the West German population. Of this total, about 20% are women and between 8% and 10% are young persons under 25 years old.

According to the Federal German Government's figures for alcohol consumption, no fewer than 8% of persons in the 14-19 years age group are 'heavy drinkers' with an average daily alcohol consumption of 80 grammes or more. Taking an average daily alcohol consumption of 100 grammes as a basis, 4% of the West German population must be classified in the highest grade of risk.

Particularly noteworthy points in this context are:

- 3.1. The proportion of male to female alcoholics, still 10 : 1 ten years ago, is now about 3 : 1. Alcoholism among women is increasing at an above average rate.
- 3.2. The highest risk of alcoholism is found in the 30-49 years age group for men, and for women on a wide plateau between 20 and 49 years. One should mention at this point the information from specialized addiction clinics, according to which the average age of alcoholics undergoing in-patient treatment has been constantly decreasing - namely by five to six years over the last six to nine years. This leads to the conclusion that the age at which chronic alcohol abuse begins is getting constantly lower.

In the younger age groups (14-29 years) about 4% of persons can be considered as directly at risk from alcoholism, since they have an average daily alcohol consumption of 100 grammes. If one took as a basis average daily alcohol consumption of 80 grammes, about 7% of young persons in this age group could be regarded as particularly at risk.

- 3.3. Also at greatest risk from alcoholism are self-employed businessmen and members of the profession, as well as semi-skilled and unskilled workers. Next in order come skilled workers, farmers and white-collar workers. Members of middle and upper income groups are particularly at risk.

In other words, alcoholism has found its way into all social strata, and it is in no sense confined to specific groups or even to social fringe groups.

4. CAUSES AND BACKGROUND

The trend of addictive behaviour in West German is definitely towards polytoxicomania, i.e. the indiscriminate consumption of several chemical substances, with alcohol certainly in the lead. Apparently more and more people are trying with increasing frequency the useless experiment of chemically manipulating their own state of being. In this context the combination of alcohol with medicaments plays a special role. For example, in West German specialized addiction clinics between 40% and 50% of female addicts are dependent at the same time on alcohol and medicaments. Alcohol and medicaments, instead of being regarded respectively as a means to enjoyment and as remedies, are increasingly being consciously used as drugs. The critical limit has been overstepped and a rational approach to alcohol and medicaments has been abandoned. On the other hand, people are increasingly faced with psycho-social stresses which have to be overcome again and again through alcohol. Thus chemical substances, particularly alcohol, are consumed in order the better to withstand strains, conflicts and everyday problems, or the better to cover up anxiety, insecurity and loneliness. In this way, alcohol has become Drug Number One.

In conclusion, I should like to mention three details of measures to combat alcoholism in West Germany:

- since 1968, alcoholism has been recognized as an illness by a decision of principle of the Federal Social Court, i.e. the costs of treatment are defrayed by sickness insurance or pension insurance schemes;
- in May 1975, the Federal and State Health Ministers drew up a unified action programme for the control and prevention of alcoholism, which ranges from proposed measures to protect youth, through the promotion of research, to the financing of new forms of treatment;
- my institute, the German Centre for combating addiction (DHS), has for two years been in direct contact with the alcohol industry to find out whether preventive measures on the lines of self-restraint can be successfully put into practice in this sphere.

ALCOHOLISM, THE IRISH SITUATION

J.G. Cooney

Continuing concern has been expressed in Ireland for some time past because of the rapid rise in alcohol consumption. Over the ten years from 1966 to 1976 the amount of money spent on alcohol rose from £72.7 millions to £365 millions, approximately¹, and now represents 13% of total consumer spending in this country. During these same years the consumption of spirits has doubled, as has that of wine, while beer drinking has increased by 50%. Since 1966 the first admissions for treatment of alcoholism to psychiatric hospitals has shown a substantial increase. The position now obtains that the greatest single cause of first admissions to the Irish psychiatric hospitals is alcoholism.²

For many years, most of the treatment facilities for alcoholics were provided by the independent psychiatric hospitals. While the admission rate to these hospitals remains as high as ever, in recent years the number of alcoholic patients admitted to State psychiatric hospitals has increased very significantly. A further feature of the treatment programme for alcoholics in Ireland has been the participation in them of lay counsellors, whose efforts complement those of the psychiatrists, social workers, and psychologists engaged in this work. There has been a growth in the facilities provided for the treatment of the 'skid row' type of alcoholic. Simultaneously the Alcoholics Anonymous movement has expanded considerably and now has branches all over the country.

With the formation of the Irish National Council on Alcoholism in 1967 considerable impetus was given to the programme of prevention. The National Council is made up of representatives of all those groups interested in the problem of alcoholism. It employs a small but very active professional and administrative staff and is funded by the Department of Health, through the Health Boards. It has encouraged research into different aspects of alcoholism, including the biological approach, a survey of affective disorders in alcoholics, and a study of alcoholism in Irish prison population.

Much of the work of the Council has been concentrated in the field of education. It has conducted seminars for key target groups such as family doctors, the clergy, the members of the Garda Síochána, i.e., the national police force, etc. It has taken part in seminars for secondary school teachers with a view to implementing an educational programme on alcoholism for secondary schools. There are plans to mount a similar programme for primary school teachers in January 1978.

The National Council has encouraged industrial firms to introduce programmes on alcoholism. Some ten firms have set up their own programmes, most notably the Electricity Supply Board, i.e., the national administrative body which has the monopoly of supplying electric power within the State. The Electricity Supply Board has 11 000 employees.

There has been extensive coverage by the media in Ireland on the subject of alcoholism. As far as television is concerned, there exists a code in respect of the advertizing of alcohol on television and this code has been modified four times since 1972. For example, no hard liquour is now advertized, while alcoholic drink commercials are excluded from afternoon broadcasts involving outside sports commentaries. Television features incorporating information on alcoholism have been appearing regularly on Irish television for some years past.

The marked increase in teenage drinking is a source of considerable concern in Ireland at the present time. An encouraging feature, however, is the interest being shown in the problem of alcoholism by school children themselves, who have engaged on numerous projects on the subject, some of them of a highly sophisticated and complex nature. The increase in the number of women who drink excessively is another disturbing feature in Irish life at the present time.

References

- ¹ Estimated on basis of consumption from 1976. Fifty-fourth Annual Report of the Revenue Commissioners, year ending 31st December 1976. Published by the Stationery Office, Dublin. P.56 Table 10. P. 69 Table 20. P/p 82 - 83 Tables 39, 40 and 41.
- ² The Medico-Social Research Board.
'Activities of Irish Psychiatric Hospitals and Units' 1973 and 1974.

PARTICULAR ASPECTS OF ALCOHOLISM IN ITALY

G. Bonfiglio

In Italy alcoholism is marked by two main factors: (1) its considerable extent; and (2) the widespread ignorance of this fact on the part of the public, doctors and authorities.

This accounts for the complete lack of any structural organization for its detection, prevention, cure and for rehabilitation.

That this phenomenon has taken on enormous dimensions in Italy is illustrated by the quantities consumed, the number of deaths due to cirrhosis of the liver, admissions to hospital for alcoholic psychosis and the money spent by the population on the purchase of alcoholic beverages.

Consumption is amongst the highest in the world and has shown a continuous upward trend since the war, particularly in the consumption of beer and spirits. A study undertaken within the Ministry of Health by Professor M. Proja and Dr Papiri showed that the consumption of alcoholic beverages in Italy, calculated on availability and expressed in millilitres per capita per day, was as follows:

1951 : 25.43 for wine;	0.42 for beer;	1.91 for spirits;
1961 : 33.00 for wine;	0.85 for beer;	3.30 for spirits;
1971 : 33.22 for wine;	1.60 for beer;	4.60 for spirits;
1972 : 33.41 for wine;	1.67 for beer;	5.20 for spirits;
1973 : 32.93 for wine;	1.87 for beer;	
1974 : 32.90 for wine;	2.05 for beer;	
1975 : 33.97 for wine;	1.73 for beer;	

Data on the consumption of spirits in recent years have not been calculated. Over the period examined the increase was constant for all three types of beverage: almost 50% for wine, more than four times as much beer and three times as much spirits. Mortality due to cirrhosis of the liver increased with consumption:

1951 : 16.28 per 100 000 inhabitants;
1961 : 18.32 per 100 000 inhabitants;
1972 : 31.71 per 100 000 inhabitants;

The greatest increase in this mortality rate was registered in the age group between 30 and 49 and, for the population as a whole, the increase was of the order of 74% from 1961 to 1972. Such a high increase could be explained by certain toxic properties in wine, given that countries consuming mainly spirits show negligible increases.

Admissions to psychiatric hospitals for alcoholism also showed a marked increase:

1970	:	6 056 admissions;
1971	:	9 913 admissions;
1972	:	9 868 admissions;
1973	:	9 786 admissions;
1974	:	12 331 admissions;

Between 1970 and 1974 admissions therefore increased by 103.6%. There was a considerable increase in the number of admissions of females to psychiatric hospitals for alcoholism, which tripled for the age group between 30 and 49.

The amount of money spent on the purchase of alcoholic beverages is also enormous and constantly on the increase: 800 000 million Lire were spent in 1951, rising to 1.7 billion in 1972 and 2.157 billion in 1975. This sum is approximately 10% of the total expenditure on food.

On the basis of these, admittedly limited data, we can say with some certainty that alcoholism in Italy is a medico-social problem of the first order.

However, the consumption of such high amounts of alcohol not only determines the problems connected with alcoholism but also raises serious questions as regards nutrition. Following old traditions Italians consume a certain amount of alcohol with every meal, thus rendering the diet rich in calories. According to research carried out by A.M. Papiri, the Italian diet in 1951 consisted of 2 443 calories, of which 7.9% was supplied by alcohol (194 calories); in 1961 2 957 calories, of which 8.8% alcohol (261); in 1971 3 223 calories, of which 8.7% alcohol (282). According to the same author '97% of the Italian population consume some 1 000 calories more than is necessary and this gives rise to changed metabolism disorders such as obesity, diabetes, dislipemia, cardiopathy, etc., and hence to damage to the health and rise in food imports from abroad with the subsequent increase in the deficit of our trade balance'.

These data become even more alarming when it is remembered that they were produced without taking into account people under the age of 15, teetotallers and the aged. I have been told by Prof M. Proja of the Ministry of Health that in a research project which is still not complete he has found that the daily diet in certain communities in the north of Italy consists of 15-20% calories supplied by alcohol.

In face of this high level of alcoholic intake by the Italian population. There is an almost complete lack of legislation and health measures geared to the prevention, therapy, rehabilitation and study of the phenomenon. The level of alcohol in the blood above which driving is forbidden has not been established and nor is there any provision for the recording of this level in the case of accidents. Only since December 1975 has alcoholism been declared

as an illness in the new law on drug addiction a fact which represents great progress as compared with the past. However, the same law presumes that the problem of alcoholism can be tackled by the same structures as those provided for drug addiction and there is a tendency to make measures less medical and less specialist. There are no provisions for a specific service for alcoholism, which will have to be handled by standard socio-medical structures.

All this is in direct contrast with what is happening in the rest of the world and with the resolution proposed by the Group of Experts of the Council of Europe, which recommends the establishment of services designed exclusively for the prevention, cure and rehabilitation of alcoholism.

For its implementation the above law provides for the establishment of regional laws with a view to adapting it to specific local needs. In the law formulated by the region of Latium (Rome) on 21 September 1976 a title was adopted which very approximately recognizes the priority of the problem of alcoholism; it is as follows: 'Prevention, cure and rehabilitation of alcoholism and drug dependence'. Unfortunately, the only positive thing about the law is its title in that it repeats the same errors as the national law and in addition makes the further mistakes of prohibiting admission to psychiatric hospitals for cases of alcoholism. This ruling could in fact be acceptable but only if combined with the creation of alternative solutions. The result is that alcoholics have had to be admitted (where admission was inevitable) to general hospitals where they are certainly not well received and where they are offered exclusive a medical (and certainly not specialized) aid without the combination of social psychotherapeutical measures which are always indispensable. Very often alcoholics are discharged (sometimes on account of the widespread lack of beds) after only a few hours as soon as the phase of intoxication is over and are left to their own devices.

This deterioration in the situation created by the regional law can be seen in Rome where for more than 15 years there had been a special department, which, although unfortunately part of the psychiatric hospital set-up, had demonstrated its usefulness both from the therapy and rehabilitation stand-points and from the point of view of the study of the phenomenon in its various aspects. Some of the old patients of the department are already dead or are drifting around the city without any assistance except for brief admissions to general medical department and I have not heard of any studies on alcoholism being pursued, whereas the alcoholic diseases department of the psychiatric hospital in Rome had undertaken a series of research projects of a socio-psychiatric nature, successfully implemented a technique for preventing the alcohol withdrawal syndrome by administering dipropylacetic acid and begun studies on the relationship between alcohol abuse and arteriosclerosis.

Hopes of an improvement in this situation are given by the fact that the Minister of Health has nominated a Commission of Experts to study alcoholism 'headed by Prof Vetere', which, it is to be hoped, will become a permanent body.

LUXEMBOURG AND ALCOHOL

F. Kasel

With an intake of 10.1 litres per person, Luxembourg comes eighth on the list of 28 countries given in Table 1 (total consumption of pure alcohol); it is also fourth on the list of excessive drinkers (Table 2).

The reason for Luxembourg's position among the main alcohol-consuming countries becomes clear when the alcohol production, import and export figures of this country are analysed.

Luxembourg's total wine production in 1972 was 139 520 hectolitres. Half of this amount, i.e. 70 908 hectolitres, was exported but 74 747 hectolitres were imported in the same year.¹

Luxembourg's wine consumption for 1972 was therefore 145 359 hectolitres.

The total domestic production of distilled beverages in 1972 was 383 555 litres. 59 999 litres were exported and 657 679 litres were imported for consumption. 169 702 litres of alcohol were denatured.

These figures show that 813 524 litres of distilled alcohol were marketed for consumption.²

Beer production for 1972 was 639 366 hectolitres. 241 036 hectolitres were exported and 34 406 hectolitres imported from Germany and France.

Total beer consumption in Luxembourg came to 430 758 hectolitres.³

According to unofficial sources, these quantities are increasing. It would therefore seem that alcohol consumption is not going to be reduced overnight.

As for the effects of alcohol, 946 men and 48 women were convicted for drunkenness in 1971.

¹ Source: Statistiques de la Station viticole de l'Etat.
Contrôle des vins, 1973

² Source: Statistiques de l'Administration des Contributions, 1973

³ *ibid.*

The figures can be broken down as follows:

- Public drunkenness	439 men convicted 44 women convicted
- Driving when drunk or under the influence of alcohol	567 men convicted 1 woman convicted

Over the same period there were 3 cases of murder committed when drunk or under the influence of alcohol and 42 cases of bodily injury.

There were 21 convictions for material damage caused when drunk.

During the reference period 27 young men and two women between the age of 18 and 20 were convicted for public drunkenness.

45 young men and one young woman were convicted for having driven while drunk or under the influence of alcohol.

Comparison of these figures with those of the previous years shows that public drunkenness increased from 19 cases in 1966 to 29 cases in 1971. There was, however, no change in the number of convictions for drunken driving or driving under the influence of alcohol, i.e. 46 in 1966 and in 1971.¹

In other cases, excess alcohol consumption led to serious deterioration in health, or loss of life.

Analysis of the statistics on admissions to the Ettelbruck neuro-psychiatric hospital in 1972 shows that alcoholism is a major reason for male admissions.

Of 452 male admissions, 173 were due to alcoholism.

333 women were admitted.

The number of men admitted was considerably higher than the number of women. This difference can be explained to some extent by the fact that there is more alcoholism among men than among women.²

It is also worth noting how many of those admitted were young persons. According to this report, 23 of the men (6%) and of the women (10.7%) admitted were born between 1951 and 1960. The number of young persons between 16 and 17 was higher than in previous years. This increase could be put down to the spread of drug addiction among young persons. It should also be pointed out that there were more male admissions in the 30-40 age group and more female admissions in the 40-50 age group, than in any other age group.

This difference may be explained by the higher rate of alcoholism among men. In fact an alcoholic who starts drinking at the age of 20 becomes physically and psychologically dependent on alcohol after about 15 years and it is at this point that the first course of detoxification is usually required.³

¹ Source: Bulletin du Statec No 3 1973, pp

² ibid, p. 12

³ Source: Statistiques de l'hôpital neuro-psychiatrique, 1972, p.

Analysis of the level of education and, in the case of the men, the profession, of those admitted in 1972 shows that the majority - 61% of the men and 71.3% of the women have had only a primary school education.

Members of the working class are also in the majority (72%).⁴ The cantons of Esch-sur-Alzette and Luxembourg have the highest number of admissions, but these are substantially proportional to the populations. There are, on the other hand, relatively fewer admissions from the cantons of Clervaux, Rédange and Wiltz, in proportion to their respective populations.

The classification of admissions according to diagnosis shows that drug addicts represent the largest category of men (138 = 34%) and the second largest category of women (58 = 21.6%).

It must be remembered that a large number of alcoholics also suffer from neurological complications (polyneuritis, tremor, alcoholic epilepsy). Another important consequence of alcoholism is, of course, 'delirium tremens'. In 1972 there were 25 cases and a further 40 cases of the pre-delirium stage of alcohol poisoning.⁵

These data on alcohol production and marketing are not generally known and the public as a whole is unaware of the risks attached to excessive drinking.

The figures give us a clearer idea of the damage done by over-indulgence in alcohol.

The following examples taken from various countries show the place of alcohol in everyday life, and underscore the importance of the alcohol market to the economy of some of these countries (France, Italy, Portugal).

⁴ *ibid*, p. 13

⁵ *ibid*, pp. 17, 18

Table 1

Alcohol consumption throughout the world in 1970,
in litres per head of population

Country	Total consumption (in pure alcohol)	Spirits (in pure alcohol)	Beer (in litres)	Wine (in litres)
1. France	17.3 ¹	2.3	41.3	112.0
2. Portugal	15.6	0.5	13.9	115.0
3. Italy	13.8	1.7	11.8	114.8
4. Spain	12.1	2.8	38.5	61.5
5. Federal Republic of Germany	12.0	2.9	139.2	16.9
6. Austria	11.7	1.5	98.7	44.2
7. Switzerland	10.7	2.1	77.1	40.8
8. Luxembourg	10.1	1.9	126.5	37.0
9. Hungary	9.2	2.6	58.0	39.0
10. Australia	8.3	1.0	123.1	9.1
11. Czechoslovakia	8.0	2.2	135.1	13.2
12. Yugoslavia	7.9	3.0	29.3	28.3
13. New Zealand	7.4	1.0	114.9	5.4
14. Belgium	7.2	1.3	131.8 ²	13.9
15. Denmark	6.8	1.2	108.5	5.9
16. Canada	6.6	2.4	73.8	4.2
17. Rumania	6.5	2.4	21.9	25.0
18. United Kingdom	6.4	0.9	100.9	2.9
19. United States of America	6.1	2.8	70.2	4.9
20. German Democratic Republic	6.1	2.6	95.7	5.0
21. Sweden	5.9	2.6	52.6	6.4
22. Bulgaria (68)	5.8	1.8	27.6	21.7
23. Poland	5.4	3.2	31.4	5.6
24. Netherlands	5.6	2.0	52.4	5.1
25. Finland	4.5	1.8	48.8	4.1
26. Ireland (69)	4.5	0.9	65.3	1.6
27. Norway	3.6	1.5	36.7	2.3
28. South Africa	3.1	1.3	12.1	9.2

¹ Cidre non compris

² 'Bière de ménage' non compris.

(Source: Productschap voor Dedistilleerde Dranken, Schiedam, Netherlands).

Table 2

Percentage of population consuming over 150 ml pure alcohol per day

Country	%
France	9.05
Italy	7.39
Spain	5.35
Luxembourg	5.00
Federal Republic of Germany	4.82
Portugal	4.69
Switzerland	4.42
Soviet Union	4.29
Austria	3.69
Belgium	3.65
Hungary	3.63
Australia	3.29
New Zealand	3.04
German Democratic Republic	2.76
United States of America	2.69
Yugoslavia	2.68
Denmark	2.47
Canada	2.46
United Kingdom	2.13
Sweden	1.99
Netherlands	1.87
Poland	1.87
Ireland	1.83
Finland	1.50
Norway	1.15 ¹

¹ Based on the WHO publication 'Alcoholism: le danger s'accroît' p. 116
(20th report of the WHO Committee of Experts on Drug Dependence, p. 67-80)

THE SITUATION IN THE NETHERLANDS

M.J. Maas

When Dr Godard presented his paper, illustrating the general trend in the development of alcohol-consumption by giving the statistical figures for various countries, it may have been noticed already, that Holland, although still among the countries with a relatively moderate alcohol consumption level, has shown a considerable increase in the consumption per capita, which was even greater than in any other EEC member country.

Dr Godard's statistics, however, covered no more than a 20 years' period, from 1952 to 1972. I am sorry to say, that since 1972 the alcohol consumption in my country has gone up even more.

During the last 4 years (1972-1976) the consumption of liquor per head of the total population has increased by nearly 30%, that of beer by 27%, and the consumption of wine even by some 45%, which means that the average total consumption per capita, measured in terms of 100% alcohol, has gone up by another 35% during these last 4 years, thus bringing the alcohol consumption in 1976 to a level which was about 415% higher than the 1952 level!

As far as I can see, Dr Godard's general remarks on the trends in the development of drinking habits apply also to the situation in Holland: the consumption is spreading over a greater variety of alcoholic beverages than traditionally has been the case (mind e.g. the remarkable increase of the consumption of wine!), there are more women who regularly drink than before, the younger generation (both male and female) is starting to drink at a lower age, in most cases without their parents objecting, and there is a more permissive attitude among the adults generally, even with regard to incidental heavy drinking by young people, which to such an extent would in the past have been accepted merely when university students would have been concerned.

We will have a better and up-to-date knowledge on the subject of drinking habits, when in the next few months two reports will be published by the Netherlands Foundation for Alcohol and Drugs Research, one about drinking and smoking habits in a cross section of the Dutch population, and another on drinking habits and attitudes towards alcohol among the secondary schools' population in the city of Utrecht (the fourth big city, in the centre of the country), but generally speaking we may say that behind the strongly increased alcohol consumption in Holland lies the fact that more people are drinking more frequently, i.e. on more occasions, and that they take a greater quantity of alcohol at a time nowadays than was usual in the past, e.g. before the second World War.

When trying to go deeper into the factors which might have caused these developments, we are confronted with the complexity of the problem. Psychological and sociological factors have been mentioned already, attention has been paid to the effect of alcohol advertizing and other forms of publicity. At least for Holland (but the situation may be similar in other EEC countries) another factor must be added which has been (and still is) stimulating alcohol consumption, and this factor - alcohol taxation - is at the same time of a fiscal and of a predominantly economic character. It has been observed in a recent publication¹ that the taxes on alcohol in the course of the years have not followed the average 'normal' inflation rate. Calculations made have indicated that whereas - on the one hand - wages and personal incomes generally, in real terms, have considerably gone up during the last 35 or 40 years, and particularly so since the 50's, the prices of alcoholic beverages, again in real terms, have in fact declined, with the consequence that e.g. in 1939 it took 5.8 hours' wage of an industrial worker to buy 1 litre of jenever (Dutch gin), but only 1.4 hours' wage in 1976, which means that its real price has been reduced to 24% of the pre-war level. Considering what is known about the price-elasticity of the demand for alcoholic beverages, it may be rightly assumed that the negligence of a well-balanced alcohol taxation, which could have been at least one instrument for an alcohol control policy, is at least partly responsible for the sharp rise of the per capita consumption in my country.

The socio-medical effects of the increased alcohol consumption level in the Netherlands are reflected in the numbers of patients in hospitals suffering from alcohol-related diseases,² in higher specific mortality figures, especially for liver cirrhosis, and also in increased numbers of patients in general hospitals and in mental health clinics suffering from the Wernicke-Korsakow syndrome. The number of alcoholic patients under treatment in specialized clinics, rehabilitation and counselling centres at the end of the year has increased from about 10 000 in 1970/1971 to more than 14 000 at the end of 1976. But this is no more than a very rough indication for the actual number of alcoholics in Holland, the number of patients under such treatment for alcoholism being dependent to a great extent on the availability of trained medical and social workers' staff and the natural limits set to the case-load of such staff.

As regards traffic accidents under the influence of alcohol, I might observe that the coming into force (in November 1974) of a new law, introducing the compulsory blood test and at the same time setting a legal limit for the blood alcohol contents of 0.5 promille, has in the beginning had a definitely favourable effect, but in 1976 and 1977 so far the number of drunken drivers has gone up again, together with the number of alcohol-related accidents on the roads. During 1976 12.8% of all fatal traffic accidents were caused by drivers being under the influence of alcohol.

It is a pity that so far there is no statistical registration in the Netherlands with regard to the effect of (increased) alcohol consumption on morbidity; neither has it been possible for me to produce any reliable data regarding the effect on absenteeism at work generally or in the industry in particular. When asked, the official institutions responsible for the handling of our social security system, demonstrated their complete ignorance in the matter, by lack of any specific registration or documentation to this effect.

There is undoubtedly a need for a continuous and more detailed statistical registration and for additional research also in the field of criminality and other social disfunctions in relation to alcohol. It could be the starting point and a solid basis for the 'social accounting' of the real cost to the community of alcohol-related disabilities.

References

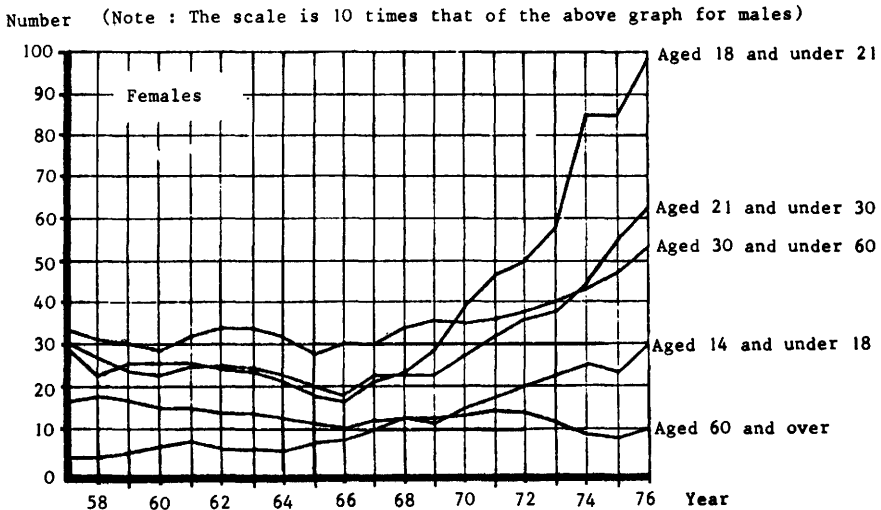
- ¹ Prof. Dr A.J. van den Tempel: 'Alcoholaccijns, alcoholverbruik en consumptiebeleid' (Weekblad voor fiscaal recht; 106e jaargang, No. 5307, 24 February 1977)
- ² In the 1960's the proportion between the male and female deaths rate from alcoholism, alcoholpsychosis and cirrhosis of the liver was about 10 : 1. The latest official statistics available show that the proportion 1974/1975 was 5 : 1.

THE ALCOHOL PROBLEM IN THE UNITED KINGDOM

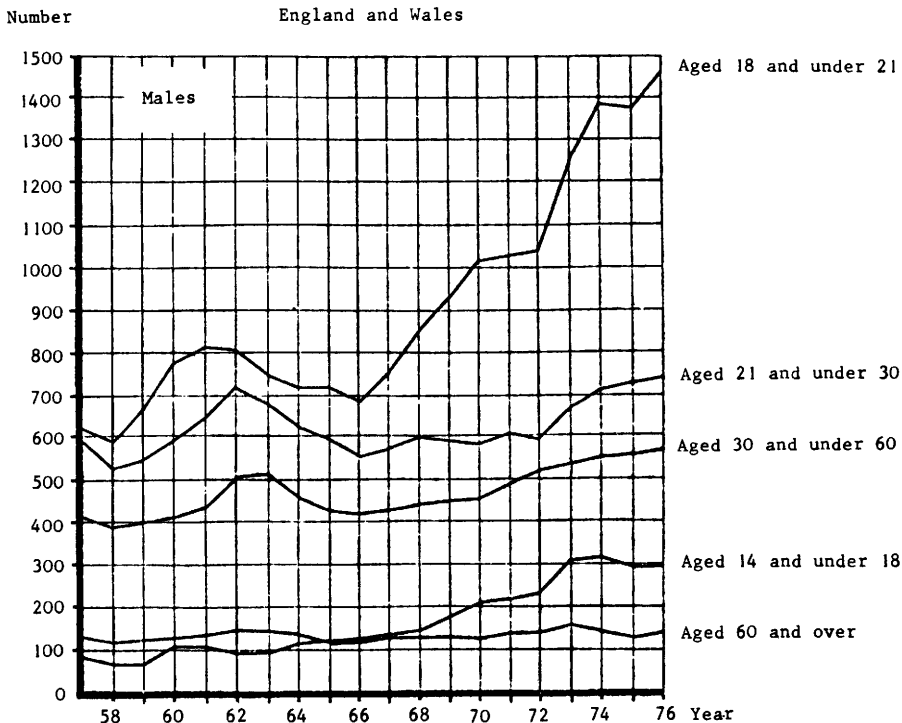
D. Rutherford

In the United Kingdom there has been a growing rise in alcohol related social and health damage. The number of drinkers who either are impaired or harmed or develop physical and psychological dependence continues to grow. Two surveys¹ carried out in 1965 and 1975 in the same geographical area showed an increase in the incidence of those with a drinking problem from 3.13% to 5.6% of the population. However, a proportion move in and out of this growing group within short periods and it is difficult at any one time to estimate the exact total of those affected.

The following indices show a rising trend: the rate for convictions of drunkenness per 100 000 of population aged over 15 in England and Wales has risen from 157 in 1955 to 280 in 1976 and in Scotland from 187 in 1955 to 463 in 1975. The number of convictions has risen every year since 1966 to 108 698 in 1976. For both males and females the highest number of findings of guilt per 100 000 of population occurred at 18. Among males the incidence per head of population for 18's to under 21's was twice that for age group 21 to 30 and 3 times that for age group 30 to 60. The incidence among females shows that the 18 to 21 years old group is twice as great as that of the 21 to 30 and 30 to 60 age groups.



The alcohol problem in the United Kingdom
Findings of guilt for offences of drunkenness
per 100000 population by age group



In 1971 the Home Office Habitual Drunken Offenders Report² carried a survey conducted by Dr Gath in 1976 of two London Courts and if this survey was projected on a nationwide basis it would suggest that of the 71 167 males convicted for drunkenness in that year 17 500 were convicted once, 7 000 were convicted two or three times and 10 500 were convicted four or more times. The drunkenness pattern of today could well reflect tomorrow's alcoholism trend. Bearing in mind also that, according to Moss and Davis,³ of male alcoholics studied only 13% had ever been prosecuted for drunkenness.

Regarding alcohol offences committed by motorists, we find that in 1966 there were 9 590 motorists convicted of driving above the legal limit; but by 1975 this had risen to the staggering total of 58 145 - an increase in rate from 56 to 168 per 100 000 of adult population in England and Wales. Of this latter figure, 53% were driving above 150 milligrams of blood alcohol, that is, almost twice above the UK legal limit. The number of convictions in Scotland rose from 5 003 in 1966 to 11 685 in 1975.

The Blennerhassett Committee 'Drinking and Driving'⁴ pointed out that road accidents cause half of all male deaths between the ages of 16 and 24 and the largest factor in these casualties is alcohol. In 1974 and 1975 two in every five motor vehicle drivers and riders aged 16 to 24 who died in traffic accidents had a blood alcohol concentration above the legal limit.

The Office of Population Census Survey⁵ recently concluded that from evidence it seems likely that the figure of 500 000 people in England and Wales with a serious drinking problem could well be a conservative estimate.

Admissions to Mental Hospitals and Alcohol Treatment Units for patients with a diagnosis of alcoholism have risen from 1 053 persons in 1955 to 13 432 in 1975 representing an increase from 3.1 to 33.1 per 100 000 of population aged over 15 in England and Wales.

Deaths from cirrhosis of the liver per 100 000 aged over 15 have increased from 3.4 in 1955 to 4.7 in 1974 in England and Wales.

A recent survey in Scotland⁶ showed that 3% of the population consumed 30% of the total alcohol consumption. The Clayson Committee⁷ estimated that 2% of the population of Scotland had a drinking problem and of these about one-third were alcoholic. In 1974 there were 5 417 admissions to Mental Hospitals and Alcohol Treatment Units for patients with a diagnosis of alcoholism. Consumption rates of alcohol certainly have a bearing on the problem. In the United Kingdom the annual consumption of alcohol per person aged 15 and over rose from 181.2 pints of beer in 1955 to 264.9 in 1976. The amount of spirits drunk in the same period rose from 3.1 to 8.5 pints per person and wine consumption rose from 3.4 to 14 pints per person. There is no doubt that this increase has had a major influence on the increasing abuse of alcohol within our community. It is a little disturbing to read in the Financial Times 28 July 1977 that the Chairman of the Wine Development Board estimates that wine consumption could double again by 1985 which makes Britain a major growth market as far as the

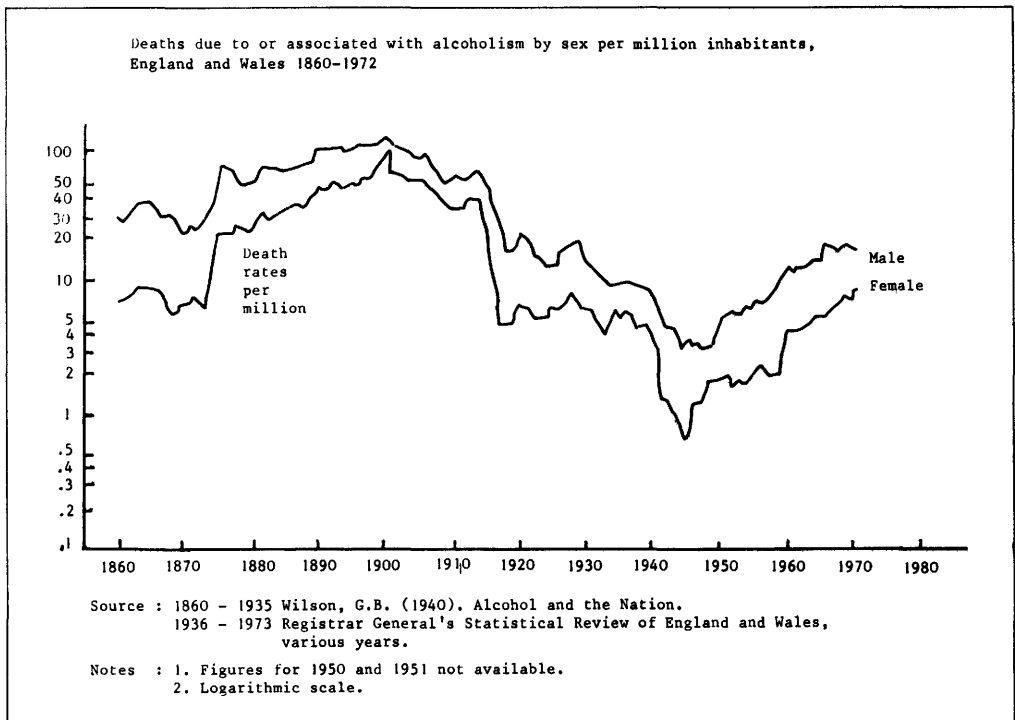


Figure 1

wine producing countries are concerned. Graphs 1, 2 and 3 (See Appendix) illustrate deaths due to alcoholism, cirrhosis, the number of drunkenness offences and the consumption of spirits in England and Wales from 1860 to 1972.

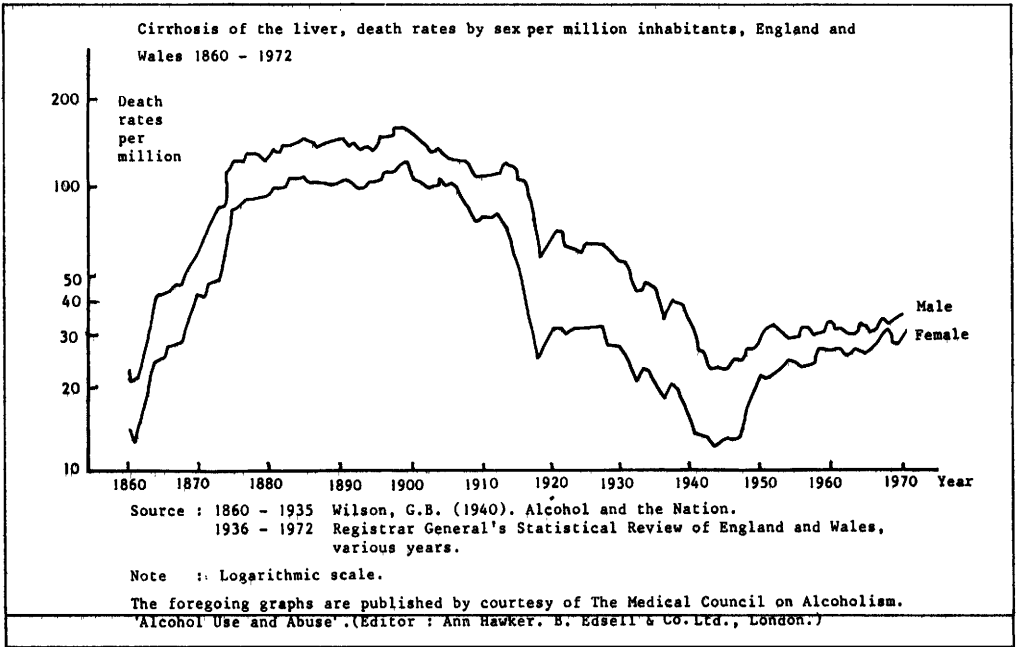
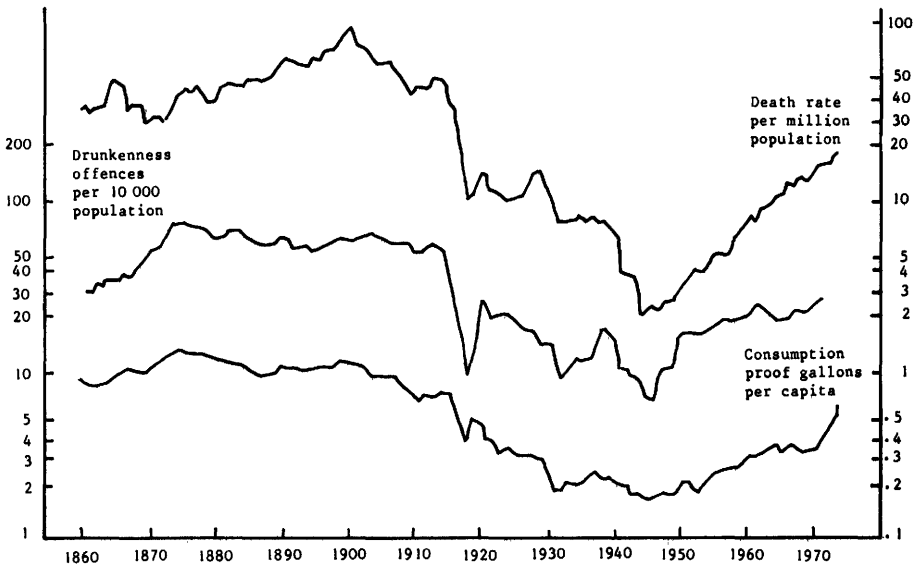


Figure 2

Deaths due to or associated with alcoholism, drunkenness offences, and consumption of spirits in England and Wales 1860 - 1974



Source : Registrar General's Statistical Review of England and Wales, various years.
Wilson, G.B. (1940). Alcohol and the Nation.
The Brewers' Society. Statistical Handbook (1974).

Notes : 1. Drunkenness offences 1860 - 1937 rate per total population.
1938 - 1959 rate per population aged 15 years and over
1960 - 1973 rate per population aged 14 years and over

2. Logarithmic scale.

Figure 3

FACTORS INFLUENCING THE TREND

What are the factors which have influenced this trend? Are they legislative, economic or social changes?

Legislative

There have been no major changes in licensing hours which could have made a significant impact on consumption. 1964 saw some minor changes in England and Wales and in 1977 in Scotland. However, the number of licensed outlets has increased and the increasing availability of alcohol in supermarkets has often been cited as a cause of increasing consumption among women, though this has never been proven. The recent report of the Government Advisory Committee on Alcoholism⁸ recommended that sales promotion should not encourage impulse buying of drink and that sales at supermarkets and grocers should be as strictly controlled as at other outlets. The Erroll Committee on Liquor Licensing⁹ in England and Wales recommended a substantial relaxation in licensing hours. However, the Advisory Committee has urged that a main ingredient in a strategy aimed to prevent harm from alcohol is that legal restrictions on the availability of alcohol should be enforced rigorously, and should not be relaxed until there is sufficient evidence that to do so would not cause increased harm. The Select Committee of the House of Commons on Preventative Medicine¹⁰ has recommended that the age at which alcohol is made legally available should in no circumstances be lowered.

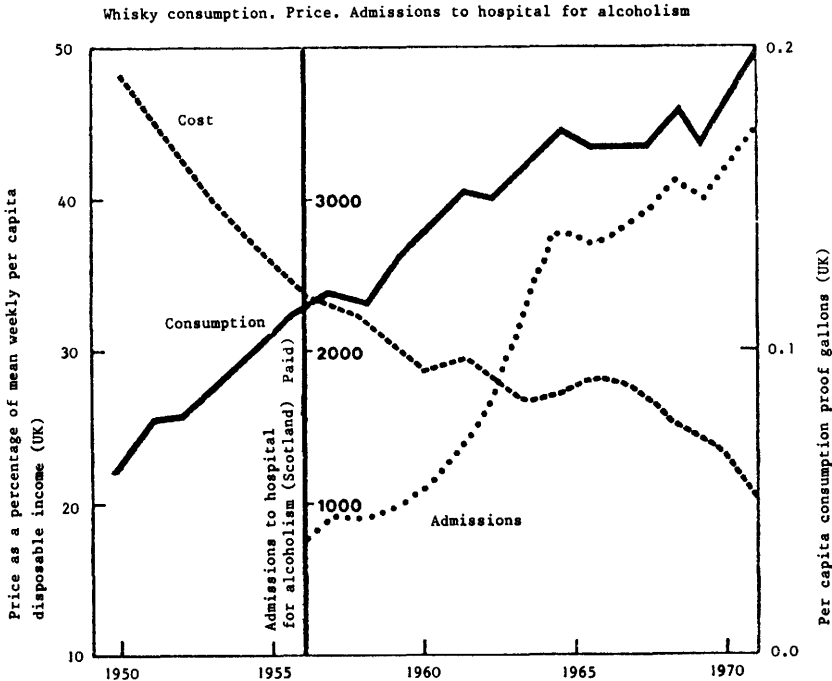


Figure 4

Economic

The late fifties and sixties saw a real increase in personal disposable income coupled with a drop in the cost of alcohol in real terms. These two factors may have played a vital role in the sudden escalation of alcohol consumption and the rise in alcohol related social and health harm. De Lint¹¹ has shown that where alcoholic beverages are relatively cheap, per capita consumption and deaths from cirrhosis are high. Evidence from Scotland shows that price affects consumption and admissions to hospitals for alcoholism¹².

In the UK changes in price appear to have the smallest effect on beer consumption; wines and spirits are more sensitive to price increases. In the UK, the effect of price per bottle on whisky consumption for 1950 to 1970 is illustrated.

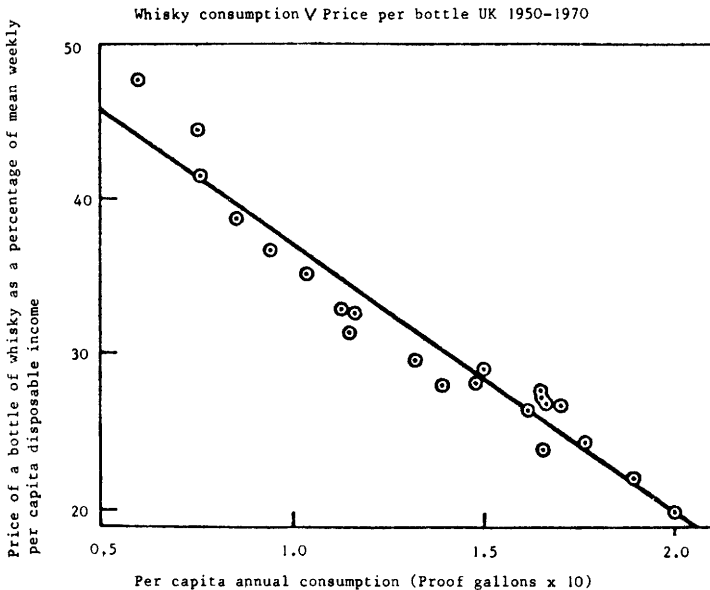


Figure 5

The Advisory Committee on Alcoholism, whilst aware of the difficulties of introducing levels of taxation high enough to make a significant impact on the consumption of alcohol, recommended that alcohol should not be allowed to become cheaper in real terms and that when real income levels rise taxation levels on alcohol should be adjusted to counteract the increased buoyancy of consumer spending. The Parliamentary Select Committee recommended that alcoholic drink should remain at the same level relative to average income and should not become a cheap item in the shopping basket.

Social

It is difficult to say what effect declining social standards or the lack of belief in any standards at all has had upon the problem. To what extent is it due to other underlying social problems? How much has increased stress and heightened anxiety caused some to seek the tranquillizing effect of alcohol? Nor can one dismiss lightly the existential anxiety and crisis of identity facing western civilization. However, these influences are difficult to evaluate and the problem appears insoluble.

It is easier, however, to point to more tangible social factors such as:

(1) Increasing numbers travel from one country to another and drinking has become 'internationalized'. Newly acquired tastes become superimposed on traditional drinking habits. Television brings the cultural life style of other nations into the home. Travel programmes are notorious for emphasizing the cheapness of alcohol in certain continental holiday resorts.

(2) Radio, television and the advertizing media tend to give a one-sided portrayal of alcohol and, some would consider, have tended to weaken social controls, which in the past led to moderation through the encouragement of appropriate times for drinking. There is a tendency to drink at any time, on any occasion for no reason.

(3) There is a prevailing over-permissive attitude to alcohol. In parts of the UK drunkenness is not frowned on and among seventeen-year-olds at school a greater permissiveness toward drunkenness has grown. In 1963 77.1% of boys and 89.3% of girls considered drunkenness to be wrong whilst in 1970 this had changed to 53.4% of boys and 69.8% of girls.

(4) Slogans such as 'I'm only here for the beer' may well have encouraged a utilitarian attitude to alcohol.

The Advisory Committee believes that the presentation of alcohol to society should be modified to produce a less one-sided picture of its effects. There is a real danger of thinking we can superimpose patterns of drinking from other countries without giving rise to serious problems. For example, the Clayson Committee on Licensing in Scotland recommended the 'Continental cafe-pub' existing side by side with the traditional public house. Would we get the best or the worst of both worlds? It is said that 'if we rely uncritically on information from other countries we may end by proposing remedies for other people's problems.' Within the Common Market do we try to impose a uniform economic standard which will have social implications or do we respect our individual cultural heritage and thereby our differing attitudes to alcohol control policies? Even within the United Kingdom cultural attitudes and patterns of drinking vary from place to place.

THE NATURE OF THE PROBLEM AND THE COMMUNITY RESPONSE

One does not need to be alcohol dependent to suffer from impairment or loss of social competence. Drinking at inappropriate times, e.g. drink and driving, drinking at work, can lead not only to harm oneself but to others. In certain circumstances drinking can increase tension and aggression manifesting itself in rowdiness, football violence, delinquency and family violence. Continual

excessive drinking, if left unchecked, leads to health damage and dependence. Any prevention strategy must take into account this wide range of alcohol abuse. It must prevent problems from occurring and seek to help those who are beginning to be affected whether it be the individual or family.

The Department of Health and Social Security has recognized that if we are to tackle the problem of alcohol abuse it requires a concerted effort from statutory and voluntary sources. At national level there is a dialogue between Government and the voluntary organizations. The National Council in Alcoholism, the Medical Council on Alcoholism, Alcohol Education Centre and Federation of Alcoholic Residential Establishments are given funds by Government and, in the planning of services and action needed to combat the growing problem, are in constant communication. It is recognized that this dialogue should exist at local level as well as national.

The policy towards the treatment of alcoholics over the past fifteen years has gradually evolved from a medical to a socio-medical model. In 1962 Government policy emphasized the need for National Health Service specialist treatment units to deal with the problem and by the late sixties it was recognized that hospital services were only part of a comprehensive service which included prevention and after care. During this time a non-governmental organization, the National Council on Alcoholism, pioneered the idea of information centres to provide education about alcoholism, advice and referral for problem drinkers. In 1967 the Medical Council on Alcoholism was established to stimulate activity amongst doctors and medical students.

In 1973 the Department of Health and Social Security issued a circular¹³ which emphasized the need for community based service in addition to the specialist health services. Funds were made available to voluntary organizations to establish hostels, shop fronts for vagrant alcoholics, and information centres for problem drinkers and their families. The need for early prevention and identification of alcoholics and the training of professional workers was recognized. The Alcohol Education Centre, another voluntary body, was set up to stimulate education among professional workers.

Due to the influence of the Circular, the number of local Councils on Alcoholism has flourished. Recently the Department financed the National Council on Alcoholism in conjunction with the Alcohol Education Centre to train voluntary workers to counsel people and their families with drinking problems. Such volunteers would complement the statutory services.

FARE (Federation of Alcoholic Residential Establishments) has been set up and financed by the DHSS to co-ordinate work among hostel workers and to liaise with the Advisory Committee on Alcoholism sub-group on Homeless Alcoholics.

In 1975 the Secretary of State for Social Services set up an Advisory Committee on Alcoholism with the following terms of reference: 'to advise the Secretaries of State for Social Services and for Wales on Services relating to alcoholism, and where appropriate to promote their development'. This Committee recently published its first report on Prevention and its report on Services is almost complete. A sub-group is examining the training requirements of professional workers.

In 1975 and 1976 three important DHSS publications referred to the problem of alcoholism:

'Prevention and Health: Everybody's Business': 'Better Services for the Mentally Ill'; and 'Priorities for Health and Personal Social Services in England'.

These reports referred to the need for primary and secondary prevention; stressed the need for a multi-disciplinary team to deal with problem drinkers and the need to develop services involving local authorities, social services and local voluntary organizations. In addition to hostels, shop fronts and information centres experimental day centres and detoxification units have been set up under the aegis of voluntary organizations.

Whilst there has been a major thrust in treatment, primary prevention campaigns have not been neglected. The Health Education Council is sponsoring a mass media advertizing campaign in the North East of England and the Scottish Health Education Unit has done similar work in Scotland. It has been recognized that prevention messages about alcohol also stimulate a demand for services for people with drinking problems. As a result of the first campaign in 1974 the North East Council on Alcoholism received over 1 000 enquiries. We are recognizing that primary and secondary prevention strategies must be co-ordinated.

The Advisory Committee has recommended two strategies in this area:

- (1) Health Education designed to alert people to the damages of alcohol and to discourage excessive drinking should be encouraged and expanded.
- (2) People who may be developing a drinking problem should be encouraged to recognize the problem and seek help.

PREVENTION

How do we intervene and prevent this problem from becoming worse? In Britain there are two areas where a break into the circle of excessive drinking at an early stage should have beneficial results. The first is at work in the context of the Health and Safety at Work Act. It is surprising that little attention has been paid to alcohol related accidents at the work place. People with drinking problems bring their problems to work. The Report of the Working Party on Alcohol and Work¹⁴ set up by the National Council on Alcoholism recommended that industry should have a code of practice for drinking problems. The code should have the following aims:

- (1) To reduce the harm done by alcohol abuse, not to condemn healthy and responsible drinking habits.
- (2) To promote a sound health education programme which would:
 - (a) increase awareness of the effects of alcohol;
 - (b) develop improved attitudes and practice regarding the use of alcohol and;

- (c) help increase understanding both as to how problem drinking starts and the social and health problems caused by it and, finally,
- (3) To encourage early recognition of problem drinkers, so that employees will seek treatment and rehabilitation during which their jobs will be safe-guarded.

The second area is the field of drinking and driving. There are grounds for believing that a large proportion of drinking drivers are alcoholic or problem drinkers, and that at present the consequences of conviction are not sufficient to break their habit or to motivate them to seek treatment. The Blennerhassett Committee has recommended that those motorists convicted with a blood alcohol level above 200 milligrams and recidivists should not have their licenses reinstated after statutory disqualification, until they can prove to the Magistrates that their drinking no longer presents a problem. On present numbers, if the Blennerhassett proposals were implemented this would mean that 16 000 cases would have to be screened each year.

In a major speech on 7 November, 1977, the Rt. Hon. David Ennals, Secretary of State, challenged the country to face up to its serious alcohol problem, stating 'What I am anxious to do is to open up a public debate on how, as a society, we should tackle this massive social problem'.

Let us hope that this seminar opens the debate within the EEC.

Appendix

National Statistics
UK Consumption of Alcohol

	Beer		Spirits		Wines	
	Million Bulk Barrels	Per Capita* (Gallons)	Million Proof Gallons	Per Capita* (Pr. Gallons)	Million Liquid Gallons	Per Capita* (L. Gallons)
1965	30.3	26.26	17.5	0.42	35.6	0.68
1966	30.8	26.61	17.8	0.42	37.8	0.91
1967	31.5	27.13	17.9	0.43	41.6	1.00
1968	32.0	28.17	18.6	0.45	46.4	1.13
1969	33.4	28.64	17.5	0.42	44.9	1.07
1970	34.4	29.45	20.1	0.48	45.9	1.09
1971	35.8	30.54	21.3	0.50	53.9	1.28
1972	36.3	31.10	24.2	0.57	61.9	1.46
1973	38.3	32.40	30.3	0.71	78.3	1.84
1974	39.1	33.00	33.3	0.78	82.7	1.93
1975	40.1	33.66	31.6	0.74	77.5	1.81
1976	40.7	34.00	35.6	0.80	80.1	1.90

* Per Capita figures based on population 15 years of age and over.

Alcohol Offences in England and Wales

<u>Offences of Drunkenness Proved</u>	1971	1972	1973	1974	1975	1976
MALES						
Under 18	3 032	3 326	4 396	4 644	4 450	4 653
18 under 21	10 430	10 762	12 987	14 293	14 378	15 785
21 under 30	19 178	19 193	21 657	22 998	23 729	24 183
30 under 60	42 938	45 399	47 346	48 580	48 982	49 781
60 and over	5 428	5 488	6 588	5 779	5 341	5 654
Total Males	81 006	84 168	92 974	96 294	96 880	100 056
FEMALES						
Under 18	245	279	329	374	355	444
18 under 21	460	496	666	839	854	1 006
21 under 30	984	1 152	1 207	1 398	1 762	1 965
30 under 60	3 218	3 351	3 486	3 769	4 126	4 655
60 and over	822	752	612	529	475	572
Total Females	5 729	6 030	6 300	6 909	7 572	8 642
Total Persons per 10 000 of population	86 735	90 198	99 274	103 203	104 452	108 698
	23.0	24.0	25.9	26.8	27.01	28.0

Driving after consuming Alcohol or Drugs

Total Findings of Guilt

	Magistrates' Court	Crown Court	Total
1971	40 700	1 559	42 259
1972	49 502	1 813	51 315
1973	58 180	2 650	60 830
1974	59 267	2 917	62 184
1975	62 463	2 737	65 200
1976	55 282	2 336	57 618

The above offences include:

Unfit to drive through drink or drugs (impairment)

Driving with alcohol in the blood above the prescribed limit

Driving and failing to provide specimen for laboratory test

In charge of motor vehicle while unfit through drink or drugs (impairment)

In charge of motor vehicle, with alcohol in the blood above the prescribed limit

In charge of motor vehicle and failing to provide specimen for laboratory test

Failing to provide specimen for initial breathtest.

1976

Driving or in charge of a motor vehicle with alcohol
in blood or urine above prescribed limit
by level of alcohol and age group.

mg of alcohol per (i) 100 mls of blood (ii) 100 mls of urine

	(i) 81-100	101-120	121-150	151 or over	Total
	(ii) 108-133	134-160	161-200	201 or over	
All ages	5 268	6 128	8 530	24 168	44 094
% of Total	11.9	13.9	19.3	54.9	
under 17	41	44	25	32	142
% of Total	28.9	31.0	17.6	22.5	
17 - 20	1 154	1 287	1 606	2 458	6 505
% of Total	17.7	19.8	24.7	37.8	
21 - 24	1 143	1 316	1 838	3 876	8 173
% of Total	14.0	16.1	22.5	47.4	
25 - 29	995	1 175	1 693	4 723	8 586
% of Total	11.6	13.7	19.7	55.0	
30 - 39	1 063	1 268	1 847	6 555	10 733
% of Total	9.9	11.8	17.2	61.1	
40 - 49	508	617	860	3 770	5 755
% of Total	8.8	10.7	15.0	65.5	
50 - 59	243	304	482	2 082	3 111
% of Total	7.8	9.8	15.5	66.9	
60 and over	121	117	179	672	1 089
% of Total	11.1	10.8	16.4	61.7	

Admission to Mental Hospitals and Units of Patients with
Primary or Secondary Diagnosis of Alcoholism

	Primary Diagnosis			Secondary Diagnosis			Total		
	Persons	M	F	Persons	M	F	Persons	M	F
1971	9 230	7 197	2 033	671	468	203	9 901	7 665	2 236
1972	10 167	7 816	2 351	683	490	193	10 850	8 306	2 544
1973	11 565	8 794	2 771	693	467	226	12 258	9 261	2 997
1974	12 495	9 266	3 229	689	455	234	13 184	9 721	3 463
1975	12 751	9 299	3 452	681	433	248	13 432	9 732	3 700

Deaths from Cirrhosis of Liver in England and Wales

Numbers		1969	1970	1971	1972	1973	1974	1975
Alcoholic Cirrhosis	M	93	98	106	125	196	196	233
	F	59	41	63	59	102	134	160
Cirrhosis of Liver	M	797	741	806	858	943	901	920
	F	781	651	764	804	861	853	915
Rates per Million								
Alcoholic Cirrhosis	M	3.92	4.11	4.47	5.24	8.20	8.00	10.00
	F	2.35	1.63	2.51	2.34	4.04	5.00	6.00
Cirrhosis of Liver	M	33.83	31.36	33.96	35.99	39.43	38.00	38.00
	F	31.27	25.98	30.42	31.91	34.09	34.00	36.00

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DISCUSSION

In reply to a question, Dr Goddard said that the French Government's policy of reducing the number of operational vineyards has proved very difficult to implement, partly because approximately 10% of the French population were involved in wine production, and had had no discernible effects.

PROBLEMS OF TERMINOLOGY AND OF COMPILING INFORMATION

E. M. Brooke

1. INTRODUCTION

George Bernard Shaw, in one of his plays, has defined alcohol as that which enables the British Parliament to do, at eleven o'clock at night, what it would not do at eleven o'clock in the morning. This is an operational definition, and Shaw is not the only one to find that it is easier to define alcohol by what it does than by what it is.

Alcohol satisfies the WHO definition of a dependence producing drug¹:

'A drug having the capacity to interact with a living organism to produce a state of psychic or physical dependence or both. Such a drug may be used medically or non-medically without necessarily producing such a state . . . There are, however, several types of drug that, because they can produce substantial central nervous stimulation or depression, or disturbances in perception, mood, thinking, behaviour, or motor function, are generally recognized as having the capacity, under certain circumstances of use, to produce individual and public health and social problems . . . the term "dependence-producing drug(s)" means one or more drugs of the following types:

- (1) alcohol-barbiturate type - e.g. ethanol, barbiturates, and certain other drugs with sedative effects . . .
- (2) etc.'

2. TERMINOLOGY

Because of the emotionality the subject provokes, definitions of terms even in constant use are vague and inadequate. Terminology may relate to the dependent condition of the individual concerned, e.g. alcoholism, alcohol addiction, alcohol dependence, and more recently alcohol abuse. It may relate to the action of drinking - heavy, escape, deviant, pathological or problem, thus describing the quantity consumed, the reason for drinking, the divergence from normal drinking patterns or the results of consumption. Other terms used relate to the immediate effects of over-consumption - intoxication, acute intoxication, or drunkenness, or to the longer term effects - chronic

alcoholism, chronic alcohol addiction. But a chronic state implies that there should be an acute state, so it may be asked if there is an acute alcohol addiction, or whether 'addiction' does not imply a chronic condition.

It has been well nigh impossible to get internationally applicable definitions of alcoholism, because the latter usually refers to deviation from societal norms for drinking, and these vary according to the place, the time and the type of drink consumed. Western Europe, where the Gross National Product is king, condemns those who, like the alcoholic, do not conform to the accepted pattern. Drunkenness is regarded as bad behaviour, it endangers the life and health of other people (especially battered wives and children and the victims of drunken driving), it leads to the neglect of duties to maintain one's family (so others have to pay for them) and it leads to lower industrial productivity. A hard-working thrifty society labels the alcoholic as a wasteful debtor, liable to damage other people and their property and failing in his duties as a citizen. Society expects the alcoholic to accept this view of himself and to try to amend his ways.

However, this moral condemnation is far from uniform, but varies with circumstances and time; marriages and other feasts, the Christmas party at the office or works, allow a certain latitude. There are different laws for men and women, and different laws for married men and bachelors. Less condemnation may be attached to the Social Class I (professional or managerial) alcoholic, who may be regarded as a victim of his social obligations, and treated as a sick person. This has two great advantages for the alcoholic since the sick role releases a person from some of his obligations, and entitles him to receive help from other people. However, in return the patient must co-operate in the treatment prescribed and show that he is trying to get better as quickly as possible (Parsons, 1951).² With a relapsing illness like alcoholism, this may be difficult for the patient to do.

3. PROBLEMS RELATED TO ALCOHOL CONSUMPTION

As regards the problems caused by excessive alcohol consumption, many are already well known, whether they concern the alcoholic himself, the family, the close environment or general society. Two problems may however be mentioned which are not so commonly listed. A large number of people in Western Europe are regularly consuming medicaments, either in hospital or prescribed by family doctors. Alcohol interacts with many of these to produce side effects which may cause hospital admission or, in the case of a rapidly acting barbiturate such as Seconal, many deaths; such deaths are not distinguished in the mortality statistics. The commonly prescribed benzodiazepines (such as librium and valium) potentiate the sedative effects of alcohol and decrease tolerance to it. Alcohol potentiates the CNS depressant effects of chlorpromazine and vice versa, and the combination interferes with co-ordination and judgement. Mancini (1974)³ lists some 150 interactants which with alcohol can produce adverse reactions.

A second problem is the fetal alcohol syndrome, exhibited by children born to alcoholic women. A series of 41 patients in the USA showed 'a pattern of defects including prenatal and postnatal growth deficiency, small head size with mental subnormality and facial abnormalities, which allowed the disorder to be recognized in infancy. The same pattern of abnormalities was independently reported from France in a series of 127 babies born to chronic alcoholics.' (Hanson et al, 1976)⁴

4. EPIDEMIOLOGY

The two concepts on which epidemiological measures are based, namely incidence and prevalence, can hardly be applied to alcoholism, because the concepts and definitions of alcoholism and alcoholics are so vague and vary with sex, marital state, social class, ethnic group, etc. Incidence requires that we define and count new cases, but this is impossible, although attempts are made to formulate a definition in terms of the average daily intake of absolute alcohol. Case detection would, however, involve screening populations and examining blood concentrations of alcohol, which may vary from one day to the next. Prevalence demands a knowledge of the number of clinically active cases, just as difficult to define and count.

5. CLASSIFICATION OF PERSONS REGARDED AS SUFFERING FROM ALCOHOLISM

Statistics, however, require some classification of persons regarded as suffering from the disabilities due to excessive alcohol consumption. One suggestion is to use the frequency of consumption, to which is attached the risk of developing problems or illnesses, e.g. intoxication, hangovers, tissue damage, legal troubles, interference with family or social relations or with economic functioning. A definition proposed by a WHO Expert Committee relates to persons having an average daily consumption in excess of 150 ml of absolute alcohol, since this appears to have a positive correlation with the death rate from cirrhosis of the liver (WHO, 1973).⁵

If we regard excessive consumption as a disease, we have the International Classification of Disease which is used by Member States of WHO for their official statistics, usually for classifying people admitted to medical care and treatment. The 8th Revision provided for alcoholic psychosis, with 5 subdivisions; for alcoholism, with 4 subdivisions in terms of episodic, periodic or chronic drinking; for accidental poisoning by alcohol and for other toxic effects.

The 9th Revision, just issued, provides for the two latter categories and for alcoholic psychosis with 8 subdivisions, including alcohol withdrawal syndrome other than delirium tremens. The great improvement is that the alcoholism categories are now replaced by one category only, namely 'Alcohol dependence syndrome' for which the following definition was recommended by the WHO Group of Investigators on Criteria for Identifying and Classifying Disabilities Related to Alcohol Consumption:

'A dependence on (or addiction to) alcohol characterized by an overwhelming need to ingest large amounts of alcohol-containing beverage, marked by impaired control over drinking. There is a drive to obtain the gratification of intoxication or to escape mental or physical distress by means of self-alcoholization. The uncontrollable behaviour has been attributed to a learned or conditioned dependence activated by critical internal or environmental stimuli; and to changes in the central nervous system consequent upon habituation or adaptation to, or injury from, large amounts of the ingested drug, often with the development of withdrawal symptoms when the craving is not relieved.' (WHO, 1977; 'Alcohol Related Disabilities', ed. Edwards et al.)⁶

6. DIFFICULTIES OF DATA COLLECTION

Efforts to assess the extent of alcoholism in a jurisdiction usually involve the use of data for persons who seek medical treatment, from various kinds of consumption data, legal data and mortality data. It is not too harsh a criticism to say that such data commonly suffer from incompleteness, vagueness of definition, doubtful suppositions, and inconsistency over time due to changes in public attitudes.

(i) Persons contacting the medical services

Mental hospital admissions, with a diagnosis of alcoholic psychosis or alcoholism, are generally used. But in any jurisdiction not all hospitals contribute data to the common pool, especially private ones. Usually only one diagnosis is counted in the statistics. In the writer's experience, when two diagnoses per patient are allowed, the count of the number of alcoholics in hospital may be doubled. Vertical thinking leads us to look for alcoholics in the psychiatric services and not elsewhere. More people are being treated nowadays in the ambulatory services, but statistics for these are not well developed, especially as regards diagnosis. There is also little information from family doctors, who are not usually included in any comprehensive statistical scheme.

Where alcoholism is regarded as an illness, social security programmes may provide for treatment and payment to compensate for loss of income while under treatment. This benefit applies, to one extent or the other, in France, the German Federal Republic, Denmark, Great Britain and Ireland. France, for example, is paying heavily for long-term disability benefits and premature retirement pensions for persons with chronic alcoholism, alcoholic psychosis, or confirmed cirrhosis. In Italy, however, invalidity pensions are often refused when the cause of the disability is wholly or partly alcoholism (Moser, J. in (6) op. cit.).

Excessive alcohol consumption may lead to traffic accidents, but in official statistics only the nature of the injury and the type of vehicle involved are likely to appear in medical statistics. Importance is attached to speeding, slippery roads, or poor visibility. In Switzerland, where a study was made of blood samples taken from all hospitalized accident cases, 35.2% were under the influence of drink and 21% severely so (Kielholz, 1973).⁷ People admitted for suicidal attempts also need to be examined for alcohol consumption, if a total picture is to be obtained. Again, it must be remembered that the roads are not the only places where accidents due to excessive alcohol consumption may occur; the home, the factory and the football ground can also contribute to the overall assessment of the problem.

Admissions to hospital may merely reflect the number of beds available. Because of hostility to alcoholics, they may get low priority, except in special alcohol treatment units. However, one of the main difficulties of using medical service statistics is that alcoholism is a relapsing disease, so that the same person may be counted more than once, thus artificially inflating the statistics.

(ii) Consumption data

Under this heading are usually considered per capita sales, per capita consumption, expenditure on alcohol in relation to income, and numbers of outlets for the sale of alcohol. Trends in these indicators may show whether the overall purchase or consumption is varying but they do not show how many persons are consuming to excess, and whether this number is increasing or decreasing.

Per capita sales are calculated by taking the volume sold to the consumer or the licenced retailer, plus the volume of home production, both expressed in units of absolute alcohol, and dividing by the population aged 15 and over. This index has several disadvantages, even as an average. Its accuracy will depend upon the completeness of reporting, especially of home production. It is subject to short-term fluctuation, for example by stocking-up in anticipation of a price rise or an increase in tax. The fact that something is sold does not necessarily mean it is consumed at the time. The index relates to sales in a jurisdiction, whereas a considerable amount may be sold to non-residents (tourists, etc.).

Per capita consumption is also expressed in units of absolute alcohol and related to persons aged 15 and over. This statistic is also unreliable because the amount consumed by be incorrectly stated, people tending to under-report the amount they drink. For comparative purposes, the chief disadvantage is that it assumes that alcoholism can be defined in terms of levels of consumption of alcoholic beverages, whereas the concept of alcoholism varies between people and places. The denominator will include many people who do not drink at all, whereas there will be many who would enlarge the numerator, but cannot consume because they are in institutions - prisons, hospitals, etc. The average is artificial because it takes no account of sex or age or of regional differences even in the same country, Then again two people may have the same average consumption, but one may have a uniform level, while the other may concentrate his intake in short, intensive spells of drinking.

Expenditure on alcohol in relation to income is an index whose trends are difficult to interpret, because expenditure does not necessarily represent consumption, and also there are constant changes in the value of most currencies. An increase in expenditure may be entirely accounted for by an increase in tax. The proportion of income spent on alcohol may decrease, because the amount spent on alcohol was already maximal and an increase in total income means more will be spent on other things. Expenditure in relation to income may also increase because more expensive types of alcohol are being bought, for example wine instead of beer, but the quantity of pure alcohol consumed may be constant.

The use of the number of outlets, that is places where alcohol can be bought, as an index is based on the concept that the extent of alcoholism will be directly related to the ease with which alcohol can be obtained. However, it might simply happen that the sales remained constant, but were divided up between more vendors.

(iii) Legal data are often regarded as being firmer than consumption data, partly because they apply to individuals rather than to averages of alcohol. The difficulty is that they are likely to rise and fall according to the effect of public opinion on police activity. When there is a loud public outcry about road deaths due to drunken driving, the number of summonses for

this offence is likely to increase. It may also vary with the time of day, and the urban or rural situation. People subject to the effects of physical violence due to excessive alcohol consumption, such as battered wives, are often afraid to make a public complaint.

The principal items counted here are convictions for drunkenness in public (but not in private), drunken driving, even if no accident occurs, the number of driving licences withdrawn, convictions for damaging goods and property, manslaughter or violence against other people while under the influence of drink.

It will be noted that all these items may be subject to double counting.

(iv) Mortality data appear so far to have offered the best indices of alcoholism, perhaps because it has been shown that they are significantly related to levels of consumption in some jurisdictions. Using the international data on alcohol consumption and death rates from cirrhosis of the liver and alcoholism combined quoted by Walsh and Walsh (1973)⁸ there was a rank correlation coefficient of '884 between these two variables for seven of the EEC countries (Denmark and Luxembourg excluded). It may be shown that persons identified as chronic alcoholics have a reduced average life span. Relatively few deaths are likely to result from acute alcoholic intoxication per se, its effects appearing in accidents, suicides, etc. The cause of death most commonly related to alcoholism, apart from cirrhosis, appears to be cancer of the oesophagus. The mean consumption of patients with this cancer is high, but the lower limit of intake falls within the consumption of control groups. Neoplasms of the buccal cavity are known to be related to alcohol consumption, while studies in Birmingham suggest a significant excess risk for cancers of the buccal cavity and pharynx, and for cancers of the liver, gall-bladder and pancreas taken as a group (International Agency for Research on Cancer, 1976).⁹

The concept of a progressive series of disabilities resulting from an individual's increasing his alcohol consumption is an interesting one, gastritis being followed by alcoholic psychosis and proceeding to cirrhosis and cancer. The difficulty of testing this hypothesis is the impossibility at present of bringing together all medical records for the same person. An attempt could be made in a jurisdiction where there is a universal social insurance scheme and all records of sickness absence are centralized and classified by diagnosis. By relating such records to levels of consumption it might be possible to establish 'safe' levels, information about which could then be given to the public.

Other statistics of the effects of alcoholism

Apart from the indicators of effects of alcoholism in terms of sickness, death or legal sanctions already described, others are suggested from time to time such as

- disruption of family life by divorce
- numbers of children taken into care because of parental alcoholism
- decrease in productivity; working days lost; premature retirement; increase in unemployment.

While excess alcohol consumption may be a contributory factor, these indicators are likely to be multifactorial.

7. WHAT CAN BE DONE?

Table 1 shows the number of persons with average daily consumption in excess of 150 ml of absolute alcohol per 100 000 persons aged 15 years and over. It has been constructed from a table which appeared in WHO Technical Report Series No 551, by taking out data for the nine EEC countries; the right hand column has been calculated to show what proportion of the defined population is consuming average quantities likely to damage their health.

These data were apparently calculated on the basis of the total annual consumption of absolute alcohol in the countries concerned, by refinements of the method originally proposed by a French demographer, Ledermann (1956).¹⁰ As already indicated above, the total annual consumption is not easy to calculate, and we have no way of knowing the limitations and discrepancies in each country. Duffy (1977)¹¹ and personal communications) has pointed out the errors in Ledermann's work and shown how a fallacy has been perpetuated in epidemiological studies of alcoholism, with consequent implications for public policy. He finds that 'the great attraction of Ledermann's method is that it provides answers to important questions about the prevalence of excessive drinking. These answers are almost certainly wrong . . . '.

Table 1

Number of persons with average daily consumption in excess of 150 ml of absolute alcohol per 100 000 persons aged 15 years and older, 1970

Country	Persons consuming over 150 ml of pure alcohol per day	Proportion, 1 in N.
France	9 050	1 in 11
Italy	7 350	1 in 13.5
Luxembourg	5 000	1 in 20
FR Germany	4 820	1 in 21
Belgium	3 650	1 in 27
Denmark	2 470	1 in 40
United Kingdom	2 130	1 in 47
Netherlands	1 870	1 in 53
Ireland	1 830	1 in 55

150 ml of absolute alcohol is equivalent to: 12.7 oz whiskey (40% alcohol) or 31.6 oz wine (average 16% alcohol) or 101.4 oz beer (5% alcohol).

From the point of view of services, we cannot identify the persons in greatest need, nor those who might be made the target of primary or secondary prevention. We have, in fact, only got one more time to add to the existing patchwork of information obtained by putting together vague and ill-defined data from national statistics. These provide us with a convergence of probabilities - if we have high rates for mental hospital admissions for alcoholism, for accidents due to excessive consumption, coupled with high economic indices for production and consumption and with an excess of legal offences attributable to the same cause, it may be concluded that the problem of alcohol-related disabilities is a severe one.

Epidemiological studies are generally based on individual reporting of morbidity or mortality. To assess the distribution of levels of alcohol consumption by investigating a representative sample is commonly dismissed as impracticable and providing inexact results. That this need not be so has been demonstrated by studies made by Tuyns, Pequignot and Jensen in Ille-et-Vilaine (1975).¹² These workers take the view that it is impossible to obtain objective measures of individual consumption independently of the person concerned. The methods of individual enquiry which they have used to ensure as exact a recall as possible are of particular interest.

We cannot hope to measure the effects of alcohol consumption by looking at entire populations. It is probable that greater benefit will be derived from undertaking detailed studies on carefully selected samples. However, before we can do this we must develop a set of measures for recording rates and patterns of alcohol consumption, and the extent of resulting disabilities, which will be internationally acceptable and comparable. For this three things are needed:

- (1) standardized definitions, so that we are all counting the same thing;
- (2) standardized methods of observation, so that we all count in the same way;
- (3) standardized reporting instruments, so that we all record what we have found in the same way.

Let us not think this is too difficult. There is another universal problem, namely schizophrenia. For this disorder, WHO has already carried out the process of making standardized definitions, standardized methods of observation and standardized reporting instruments. It is up to us to do the same thing for alcoholism.

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THE PROBLEMS OF TERMINOLOGY AND COLLECTION OF DATA

F. Bertini

The concept of 'risk factors' emphasizes the existence of a correlation between two phenomena irrespective of any accidental link and above all reflects a more open approach to the problem.

This approach is a departure from the pragmatic research for putative 'causes', using methods appropriate to the case in hand.

This new emphasis also entails the clarification of the terminology used in considering the problem of alcoholism.

This problem cannot be analysed simply in terms of the interplay of demand and supply. Just as an indefinite increase in the production and supply of alcohol would not mean an equivalent increase in the number of alcoholics, similarly a substantial reduction of supplies of alcohol would not bring about an equally dramatic drop in the number of subjects affected. There are persons for whom the intake of alcohol has become a crucial factor in life, involving an increasingly pressing and uncontrollable need, which all their physical and mental resources are focussed on satisfying.

From the pathogenetic point of view a clear distinction must be drawn, when examining these cases, between alcoholic intoxication as the somewhat incidental result of a prevailing mental disorder on the one hand, and the observable consequences of this prevailing mental condition on the other.

Obviously, we must concentrate on the first hypothesis, i.e. excessive drinking seen as the result of the interaction of several personal, environmental and social factors in a multiphasic system.

This situation in turn gives rise to a dual distinction: on the one hand, we have the individual phenomena connected with the intake of alcohol and, on the other hand, phenomena of a socio-cultural character.

In addition this must be considered the significance of a mass of diverse causes, involving environmental behavioural factors.

A study of these variations in choice of social behaviour reveals, as in the case of other behavioural patterns, the psychogenic effects of changes in the 'habitat' and attendant social climate.

The foregoing observations of principle should be borne in mind since they can help us to understand the complex problem of alcoholism.

The remarkably varied wealth of existing terminology can understandably lead to confusion as regards both the definition and the epicrisis of the phenomenon itself. One of the reasons for the present conceptual difficulties is the fact that alcoholism has up to now been considered as an indivisible whole. However, when examined more closely it is clear that this genesis term embraces a large number of different phenomena.

Thus, we have to consider not only the clinical character of the problem, but also implications on society and the family, not to mention economic aspects.

Until relatively recently, the term 'alcoholic' inevitably brought to mind the stereotyped figure of a physical, mental, social and moral degenerate and the various behavioural deviations associated with such persons.

This view of the alcoholic biotype underwent a change as a more human came to be taken of the mental and physical situation of the person concerned.

When it was understood that the craving for alcohol was an undeniable fact and was followed by habituation and the first signs of mental disorder and observable physical change, it became apparent that these were steps in the progression of alcoholism as a disease in the broad sense of the term, as opposed to a specific biotypic change.

The medical classification of this condition has over the years overcome numerous ideological barriers so that it is now considered as part of the vast field of human mental and bodily suffering.

The term 'alcoholism' has over the past 30 or 40 years gradually found its way into everyday language.

The mere fact that the word alcoholism is today used to describe certain disorders of behaviour associated with excessive drinking which were formerly generally and pejoratively put down to 'inebriation' ought perhaps to be taken as a sign of a new approach to the problem.

This modern approach means that alcoholism must become a subject of specialized professional and scientific interest.

To what extent it should be considered as a pathological condition obviously depends on how the words 'alcoholism' and 'illness' are interpreted.

Unlike most other general or psychiatric pathological conditions, alcoholism produces a large variety of irrational and abnormal patterns of behaviour.

Although they do to some extent acknowledge the physiopathological and psychopathological effects of the condition, most definitions of alcoholism go no further in substance than to stress that the condition itself is the result of uncontrolled and repeated abuse of alcohol, but frequently omit to specify the different qualitative and quantitative characteristics which make this abuse a pathological phenomenon.

Duchenne (1951), for instance, considered alcoholism to be:

'An anomaly in behaviour resulting from unusually large intakes of alcoholic beverages, its main pathological characteristic being that it is only slightly amenable to the arguments which are generally effective in influencing human behaviour.'

Others, while accepting this definition in the main, place the emphasis on 'dependence' on the toxic substance as the main feature of the alcoholic's behaviour.

Still other authors, on the contrary, attach greater importance to the social consequences of the state of chronic alcohol intoxication: 'An alcoholic is a person who, by consuming alcoholic beverages, causes individual or collective damage to society' (Jellinek), or, 'An alcoholic is a person whose drinking is such and so frequent as to diminish his professional efficiency and therefore his capacity to earn'.

They are other authors who consider the alcoholic as someone who drinks too much, or rather someone who consumes more alcohol than he is able to tolerate, and therefore restrict the assessment to the mere externally observable effects of the phenomenon.

Alcoholism is also defined as:

'The habitual bodily intake, in various beverages, of excessive quantities of alcohol, in order to achieve a sensation of well-being or in order to relieve symptoms or states of anxiety, a habit which leads to acute or chronic medical and psychiatric disorders'; specifying also that the term 'chronic alcoholism' refers to the consequences of this habit when pursued over the long term.

Recently, alcoholism has been defined in the broadest sense as a complex 'symptomatic formation', meaning a clinical situation originating in a wide variety of factors - although not always pathological factors, strictly speaking - subject to multiple influences and which can arise to a greater or lesser extent in given conditions stemming from certain personal and social circumstances.

A typical modern definition of alcoholism could be:

'Chronic behavioural disorder resulting from repeated and excessive consumption of alcohol such as to impair the health of the drinker of his social or economic effectiveness'.

The above definition corresponds exactly to the one submitted by the Alcoholism Subcommittee of the WHO Expert Committee on Mental Health.

For a better understanding of alcoholism and its social complications it is necessary to analyse not only its objectively observable consequences, but also the subjective attitudes which characterize the condition.

Contrary to what had been the case in agricultural society, drinking, with the advent of the industrial age, has gone beyond the limits represented by symbolic and ritual functions and has established its own code of conduct with socially acceptable rules.

It is significant that the concept of lack of self-control in the consumption of alcohol is today widely accepted as symptomatic of a potential alcoholic.

The experts of the Council of Europe met recently and attempted to bring some order into the terminology concerning alcoholism. The need for a standard clinical definition based not on the models proposed by Jellinek, but on the classification of Knight and Haggards, became apparent. The latter classify drinkers as follows:

(1) SYMPTOMATIC DRINKERS

These are relatively few in number and are those whose alcoholism is subordinate to a specific mental illness. Alcoholism is, in this case, merely a symptom and may, in fact, be purely superficial. The pathological condition in such cases can be diagnosed from a careful study of the case history, from the (eccentric) pattern of drinking habits and lastly from results of projective and clinical tests.

(2) PRIMARY ALCOHOLICS

Alcohol addicts.

Here, alcoholism is also the result of endogenous factors but unlike the symptomatic drinker, the primary alcoholic suffers from no mental disorders which can be diagnosed, other than alcoholism.

He has a definite need of alcohol, the effects of which are used in his attempts to 'adapt' and thereby attain a psychological equilibrium.

(3) SECONDARY ALCOHOLICS

These form a heterogeneous group distinguished by the fact that their alcoholism is exogenous. They had no specific need for alcohol when they began to drink, but developed one for various family or social reasons as time went by.

These drinkers, who can generally be classified as chronic alcoholics, are able to take large doses of alcohol when they are young, but their capacity diminishes over the years, with attendant and obvious physical and consequently mental changes, ranging from impairment of the main mental facilities to various acute disorders such as delirium tremens and Korsakow's syndrome.

Secondary alcoholics differ from primary alcoholics in that they have succeeded in adapting - even well - to social and professional life for a certain number of years.

Summing up, I should like to mention the problem of rehabilitation, which must be tackled from both the individual and the social angle.

The extent of this problem calls for a programme of research, at a multi-disciplinary level or in specific scientific sectors, entrusted to groups collaborating directly with the community as a whole in order to define the problem of alcoholism in precise terms and decide how it can best be tackled, and to establish the criteria for interpreting and assessing the results of experiments already carried out.

An analysis of the criteria involved may also include techniques of epidemiological research (descriptive and/or analytical).

In the first place, an analysis will be made in order to obtain an idea - albeit rigid - of how widespread alcoholism is in a given population or population groups, on which we may be able to base an action programme for social change.

Secondly, it will help us to determine the statistical incidence of 'risk factors' as correlation indices in comparative studies.

Finally, it is only by clarifying the rôle and the methods of treatment that it is possible to attempt some kind of action which will be really useful and thus of real therapeutic value, rather than merely being a symbolic step towards the eradication of stressful social conditions. The concept of a 'deviant' occurs when there is a false therapeutic relationship (Andreoli et al.).

In conclusion, if we consider over-indulgence in alcohol as an emotional and social-cultural form of escapism for the public in general or as an expression of personal feelings or of misinterpreted information, it is very difficult to establish an objective choice which is in keeping with the actual situation.

SOME PROBLEMS OF TERMINOLOGY AND OF COMPILING INFORMATION IN CONNECTION WITH THE INVESTIGATION OF ALCOHOL-RELATED MEDICAL AND SOCIAL RISKS.

J. de Lint

In the last few years considerable attention has been focused on the proliferation of alcohol use in many societies, its effects (documented or presumed) on public health and the need to implement control policies to restrict the availability of alcoholic beverages.^{1, 2, 5, 8, 19, 20, 23, 27, 30}

Thus the Twenty-eighth World Health Assembly adopted a resolution (WHA 28.81) which requested the Director-General:

- (1) to direct special attention in the future programme of the WHO to the extent and seriousness of the individual, public health and social problems associated with the current use of alcohol in many countries of the world and the trend towards higher levels of consumption;
- (2) to take steps to develop comparable information systems on alcohol consumption and other relevant data needed for a public-health-oriented alcohol policy;
- (3) to study in depth, on the basis of such information what measures could be taken in order to control the increase in alcohol consumption involving danger to public health.

And at several international research seminars - such as at Berkeley, California (1974), at London, England (1977), at Coronado, California (1977) - the argument linking alcohol availability, alcohol consumption and related medico-social risks has been debated at length.^{5, 23, 30}

With more public attention now given to the argument that the current pandemic trend towards higher levels of alcohol use is undesirable from a public health point of view, a considerable demand for relevant information has been generated.

This demand cannot be met. To many questions in this area of alcohol politics there are as yet no adequate and convincing answers. For example: how much does alcohol-use per se contribute to the many behavioural disorders and diseases generally considered to be alcohol problems? And how frequently do these problems occur in a given jurisdiction where alcohol is consumed at a certain rate?

Within the context of terminology and information collection I like to illustrate the nature of our difficulties further. You are undoubtedly aware that in the past much effort has been invested towards definitions of alcoholism and towards methods to estimate its prevalence.^{3, 6, 7, 10-16, 18, 19, 21, 25, 26}

This work, however, is of little or no relevance to the scientist who seeks to relate levels and patterns of alcohol consumption - individually or collectively - to the incidence of behavioural disorders or assorted health damages.

The main reason is that the term 'alcoholism' is too general and usually refers to a whole spectrum of consumption patterns, behavioural disorders and disease conditions in all sorts of combinations.

Indeed, it would be more useful if we were to focus our attention on specific aspects of drinking such as occasional or chronic intoxication, regular excessive drinking, in order to decide whether an injury, a disease or some other problem can be attributed to consumption of alcoholic beverages.

At present, many studies in the alcohol literature are of little use to the epidemiological study of risks associated with alcohol consumption patterns. For example, I just read in the recent NIAAA publication 'Alcohol Health and Research World' about an investigation to determine what proportion of admissions to a General Hospital are 'alcohol-related'.³⁴

In this article the term 'alcohol-related' is defined to mean all circumstances where alcohol plays some part in the admission. Therapists were asked: 'is the admission alcohol-related? (yes, no, uncertain); does the patient have a drinking problem? (yes, no, uncertain); if yes, is the problem mild, moderate or severe?' On the basis of such data the authors concluded that 9% of admissions were 'alcohol-related', whatever that means.

I like to emphasize that we do need much better information than that if we want to link meaningfully distinct alcohol consumption patterns to specific consequences to health or well-being.

CONSUMPTION DATA

Let us now consider the collection of information in the field of alcohol consumption patterns. Here I like to mention the valuable services of the Dutch Distillers who collect and publish annually per capita consumption data for a large number of countries.²⁸ Their efforts have recently been complemented by the World Alcohol Project (WAP), a collaborative undertaking of the Finnish Foundation for Alcohol Studies and the Euro office of the World Health Organization.⁹

Their data permit us to tabulate the estimated consumption of alcohol per person of drinking age. And for jurisdictions in which the number of actual users of alcoholic beverages has been determined - more or less - in the course of drinking surveys, the estimated consumption of alcohol per user can be tabulated as well. On the basis of the latter value (the estimated consumption per user), it is then possible to determine how many persons are probably consuming in excess of a daily average of 10, 15 or 20 cl of absolute alcohol.¹⁹

I do not think this is the place or time to comment at length on the feasibility of applying the so-called Ledermann distribution of alcohol consumption model to consumption averages in order to obtain estimates of

regular excessive alcohol use in populations. I would like to emphasize, however, that after many years of data collection and discussions following Ledermann's death there is not yet a competing model on the market.⁵ At best one can say that there are now slightly modified versions of this theory.

In any event, from a public health point of view, it is important to provide an approximation of the number of regular excessive consumers in a population. Regular excessive consumption is - after all - implicated in the aetiology of many behavioural disorders and diseases.^{2, 19, 22} This does not mean, however, that we have sufficient knowledge to permit us to use these estimates to make predictions about the whole spectrum of alcohol-related problems or about the prevalence of so-called 'alcoholism'.

And, in this context, I like to remind you that acute and chronic intoxication are also linked to many behavioural disorders and diseases. Unfortunately estimates of the prevalence of drunkenness in a jurisdiction at a certain point in time are relatively rare. Most certainly, rates of regular excessive use do not tell us very much about the frequency of intoxication, but separate methods to approximate the latter have not been developed to any extent. We do not yet know what proportion of consumption during a typical day in a given jurisdiction goes into the pursuit of a state of gross intoxication. I would like to suggest to you that such data may be as valuable as data on the number of people who regularly consume in excess of a certain amount.

These were some observations about the collection of information concerning the prevalence of certain consumption patterns in populations.

To link medico-social problems after they have occurred in a sample of men or women to consumption patterns creates a somewhat different problem in data collection. Here we must try to reconstruct previous drinking behaviour, for instance, on the basis of Blood Alcohol Concentration or on the basis of the patient's recollection of his or her drinking activity. In such retrospective investigations one would of course like to do more than simply reconstruct the reconstruct the consumption behaviour immediately preceding the onset of the disease. For example for Dr Pequignot's samples it would be nice to know more about the lifelong drinking experiences of his group of low consumers suffering from cirrhosis of the liver or cancer of the oesophagus. Have they always been low consumers?

Undoubtedly, the argument about the need to stabilize the rising trend in overall consumption would be far more convincing if it could be supported with a statement that such and such proportion of fatal injuries or diseases have been preceded by an intoxicating drinking episode or repeated excessive drinking, than with a statement that many such injuries or diseases were 'alcohol-related'. But to gather more specific data a great deal of patience and skill would be required.

HEALTH DATA

The collection of information in the area of health damages and behavioural disorders that may be caused by the consumption of alcoholic beverages is also a formidable task. In the recent book 'Alcohol policy in public health perspective', a joint undertaking of an international group of scientists and

the Euro office of the World Health Organization, considerable attention is given to the collection and improvement of consumption data but curiously little attention to the systematic collection and improvement of data on health or other damages.

Of course, the diagnoses and recording of causes of death or disease and the collection of information on behavioural disorders and social damages may well prove to be an even more difficult task than to make estimates of the prevalence of excessive alcohol use and of intoxication. But it is also a necessary task if we wish to link medico-social risks to consumption behaviours in a meaningful way.

To illustrate these difficulties I like to refer you to a study of Poikolainen on the diagnostic practices in Finland and Sweden. He found that death from alcoholism and alcohol poisoning were used interchangeably in Sweden. In Finland on the other hand death from alcohol poisoning was usually associated with a much higher Blood Alcohol Concentration and a less frequent occurrence of fatty liver than death from alcoholism. He also noted that in some jurisdictions (e.g. Baltimore, USA) the same deaths may even be classified as deaths from alcoholic liver cirrhosis.^{17, 24}

In this connection some of the observations of Dr Corrigan which were published in the Journal of Alcohol Studies under the title Alcoholic Head Trauma Triad are also of interest.⁴

On the basis of much clinical work he concluded that in many cases fatty liver, acute pneumonia and acute subdural hematoma occurred simultaneously.

Each is potentially lethal and capable of causing sudden death. But as he puts it 'It is uncommon to find a hospital case in which all three of the components are clinically recognized since the pneumonia is often rapid in its progression, the fatty liver has no accepted clinical test save for needle biopsy of the tissues and subdural hematomas are notorious for delayed onset of clinical symptomatology'.^{4:542}

There are of course many such problems in the diagnosis and recording of alcohol-associated behavioural disorders and diseases.

And it may be useful to conduct an investigation of the diagnostic and recording practices in different countries with respect to one such disease or disorder, for example, cirrhosis of the liver.

CONCLUDING REMARKS

To conclude my remarks on the topic of information collection I like to emphasize again that more specific information is needed concerning:

- (a) the prevalence of certain consumption patterns
- (b) the prevalence of resulting damages
- (c) the nature of the connection between those two

The argument that rising consumption trends need to be stabilized for the sake of public health will remain relatively unconvincing if it is accompanied only by vague statements in which chronic excessive consumption is confused with alcoholism or in which our estimates about the resulting health damages come only from extrapolating mortality experiences in selected samples of alcoholic patients to excessive drinkers in a population.

I also like to draw your attention to the desirability of a continued examination of the feasibility of estimating prevalence in the case of each type of alcohol-related medical or social damages as well as in the case of each consumption pattern implicated in these damages.

And finally, we should be wary of the law of rapidly diminishing returns in some areas of data collection. Sometimes it may take a lot of effort to slightly improve a particular bit of knowledge i.e. a consumption average in a certain population. Usually that sort of effort is hardly worthwhile. We seem to be overcollecting in some areas of interest - doing more and more of the same - and virtually ignoring other investigative pursuits.

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PROBLEMS OF TERMINOLOGY AND COMPILING OF INFORMATION

P. Fouquet

We are grateful to Miss Brooke and Messrs Bertini and de Lint for having tackled the complicated question of terminology. We are in fact trying to define a definition. As it is always easier to say what a concept is not rather than what it is, I shall start with negative proposals.

A definition is not, or in my opinion should not be, a more or less tautological description of the causes or effects of the phenomenon one is seeking to define. Thus, an ideal definition should not relate solely to the quality and quantity of alcohol consumed; we know that these factors vary considerably from one person to another and from one region to another.

If, on the other hand, we cannot find the basic specific and universal criterion needed to fulfil the logical requirements of a proper definition, it would perhaps be better to abandon terms which are sometimes inadequate and outdated in favour of neologisms, on condition that these have been clearly defined beforehand.

This leads me to take the old word 'alcoholism' to task. As we have been using it for 128 years, you would think that we knew what we were talking about. This is not quite so, as has been demonstrated once more.

Firstly, the word 'alcoholism' is still an emotionally-charged word which tends to disgust and this makes it difficult for us to get a hearing. Moreover, and this is the most serious point, the meaning of the word is extremely ambiguous. We use it indiscriminately to describe pathological conditions affecting certain individuals, and to describe the mass socio-cultural phenomenon illustrated by the phrase 'alcoholism in France or in Great Britain', which does not mean simply the number of persons suffering illness as a result of alcohol, but clearly relates to something quite different.

The term 'alcoholpathie' (alcohol-induced disease), for example, covers clinical forms, acute and chronic conditions, complications, etc. We would in fact be well advised to centre our discussion on the phenomenon of alcohol as such i.e. its existence in our world, its production, conservation, distribution, normal and pathological consumption with all the causes and effects which this implies at both private and public level. This is my definition of 'alcoholology',¹ a new field of study which is being built up and which is the very purpose of our work. I should very much like to see a Committee set up to deal with terminology as this would be most helpful in our international discussions and would also make translations from English into French, for example, less vague.

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¹ Fouquet Pierre:

'Alcoologie, mythe ou réalité?'
Evolution Psychiatrique, Volume XLII,
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GENERAL DISCUSSION

Many speakers stressed the need to improve the quality of the available statistics by using much tighter definitions, standardizing recording procedures and introducing internationally acceptable recording instruments. It might be necessary to establish special machinery to produce and collate these data. Some speakers stressed that information on alcohol-related disabilities would have to be much wider than purely medical in character, while others said that each country would need to interpret such data in the light of its own cultural conditions. High quality international information would also open up the possibilities of assessing the significance of alcohol in the aetiology of other disorders, such as carcinoma.

No consensus was reached on the definition of 'alcoholism'. Some participants pointed out that the term was often unacceptable in quarters where a phrase such as 'problem drinking' raised little difficulty, while others suggested that any concept of a categorical, rather than a dimensional, character should be avoided.

The notion of the 'safe limit' was considered from a number of viewpoints. It was evident that there is no internationally agreed blood alcohol concentration above which a driver is deemed to be unsafe, and it was agreed that the EEC should try to harmonize its legislation. It was also pointed out that the safety of a given alcohol concentration varied according to the situation in which the individual found himself; thus not only in driving but in many industrial contexts quite low levels of alcohol in the blood stream could significantly enhance the risk of damage. Further, what was safe in an acute situation may not be safe if the individual consumed this quantity regularly over a prolonged period of time.

There was general agreement on the need to disseminate information about the hazards of alcohol much more widely than at present, especially to the general public, school children and industrial medical officers.

18 November 1977

THIRD SESSION

Definition of the risks

Chairman: Mr A. Tongue

DEFINITION OF THE RISKS

J. Casselman

INTRODUCTION

I should first like to set out the aim of the reports by Mr Trillat and myself. We have been asked to summarize the discussions of the past two days. Of course it will not be possible to give a complete and detailed summary in two 20-minute talks, but we hope to pinpoint some of the most important ideas to emerge from the papers and discussions of the seminar. This will also serve as a preparation for the conclusions which have to be drawn up at the end of the meeting.

To avoid duplication, Mr Trillat and I have shared the work. We find that the material presented can be described as the interaction of the following three basic concepts:

- (1) alcoholic beverages
- (2) users and the differences between them and
- (3) society or social environment in both the narrowest and widest sense.

With this plan as a basis, Mr Trillat will deal later on with:

- (1) aspects of the consumption of alcoholic beverages, i.e. production, marketing, etc. and
- (2) general aspects, i.e. economic data, policies, regulations, etc.

I myself will deal with assessment of the effects of alcohol consumption on the individual and the psycho-social consequences, e.g. the somatic and psychological aspects and the effects on the family, working life and leisure time activities.

I shall take research and prevention as my basis. Research is as important in the assessment of risk as prevention. Another preliminary remark should be made at this point. We spent a day and a half trying to establish an overall picture and I felt that we were in danger of losing the thread because the field of interest was so extensive. I am glad to say that since yesterday afternoon we have been concentrating on a narrower field and our aims have been more specific. Dr Baert expressed the view that it was important to have a single aim or a limited number of aims and Miss Brooke said that we needed standardized definitions, methods of observation and reporting instruments. Dr Hentz reminded us of the concrete and realistic proposals on the agenda which had been listed by Dr Recht on the first day.

My own impression was that, as far as the risks of alcohol consumption were concerned, we wanted action (short-term, medium-term and long-term) with a view to prevention (above all primary, but the possibility of secondary and tertiary prevention was not excluded), with particular attention to the effects on the working environment (without divorcing this from leisure, family life and society in the widest sense). The emphasis should be primarily on young persons as part of the population as a whole.

Although none of the items quoted should be isolated from the problem as a whole, this could form a very useful initial programme.

I shall now deal briefly with each of the five points I have just listed:

- (1) action;
- (2) risks;
- (3) prevention;
- (4) the working environment;
- (5) young persons.

I. ACTION

In the short term, a general report of the conclusions of this seminar should be submitted to the Council of Health Ministers in Brussels and recommendations should then be made to the Medical Research Committee. The conclusions of this seminar, in an edited version produced by a working party if necessary, could serve as a basis.

In the medium term, it will be necessary to ensure satisfactory and uniform recording methods in all the Community countries and to try to launch pilot research schemes to back up prevention programmes.

In the long term, research is required to assess the results of the prevention programmes; at the same time, prevention campaigns must continue.

II. THE RISKS OF ALCOHOL CONSUMPTION

The questions of definitions, methods of observation and reporting instruments are among the problems with which we are concerned here. In connection with definitions, I should like to suggest making use of the work which has just been completed by a group of WHO experts. The results of this were published a few months ago. The work was, incidentally, stimulated by the research into schizophrenia which Miss Brooke mentioned yesterday. The idea of alcohol-related disabilities is introduced and this covers the alcohol dependence syndrome among other risks.

I do not claim that it is exhaustive, but I think that it is a great step forward in the field with which we are dealing here and, as far as I am concerned, the quality is very high. There is, in any case, no point in starting again at the beginning.

The next problem is that of the choice of risks to be studied and, above all, to be forestalled. There is a very wide range. It looks as if it will be possible to draw up a satisfactory list on the basis of the papers presented at this seminar (i.e. the contributions of Von Wartburg, Péquignot, Feuerlein, Fouquet, Mäkelä, Voyé and Godard). Priorities must, at all events, be established and great care must be taken because many conditions said to be connected with alcohol consumption have been shown to be caused partly or entirely by concomitant factors such as tobacco. Definitions of the risks are based too often on the examination of extreme situations. Selectivity applies also to the groups of alcoholics who enter treatment units, or other institutions such as prisons. Sometimes the characteristics of these alcoholics tell us less about alcoholics as a whole than about the way in which treatment units operate (Mäkelä, Brooke, Fouquet). We were able to observe this much in the course of a comparative study of groups entering psychiatric hospital and prison. The criminal aspects of the risks should, moreover, not be disregarded.

Reporting methods must be refined and standardized (Brooke, De Lint, Baert) with adequate provision for individual variation. The heterogeneous nature of the data at all levels (biological, psychological and social) has been illustrated frequently at this seminar.

Another very important point is that research in this field should not be simply multidisciplinary but should, if possible, cut across the disciplines. This means that it is essential to do more than simply juxtapose the biological, psychological and social data after they have been recorded, and thereby form a very incomplete pattern. The work must be integrated right from the start to avoid a mixture of conclusions from a multitude of disciplines (Bovet).

I am pleased to say that many speakers have welcomed this idea (Von Wartburg, Kessel, Feuerlein and others). The interaction of numerous factors necessitates a new supradimensional discipline which is only workable on a group basis. The general theory of systems is particularly helpful here (von Bertalanffy). Depending on the practical application of the data to preventive work, they will require to be translated in terms of everyday life.

III. PREVENTION (PARTICULARLY PRIMARY)

Most professional health workers have been trained in terms of curative medicine and it is therefore very difficult to switch these thinking to prevention. Even the standard concepts of primary, secondary and tertiary prevention come from disease and pathology: we talk about preventing disease, detecting and treating it early and minimizing the damage already caused by it.

The concept of risk is very important in a context where more emphasis is placed on a truly preventive approach. Caplan, who introduced the concepts of primary, secondary and tertiary prevention, more recently stressed how important it was for the individual in a crisis situation or threatened with one to be able to fall back on a network of support relationships. It is this potential in the community which must be tapped, possibly with the help of professional but also of voluntary workers.

The idea of promoting self care in people is also very important.

During the seminar we have discussed education in schools particularly, but reference has also been made to a change in the mental attitude of the public as a whole. We have emphasized - and this is important - that ways of making campaigns attractive must be found. Programmes must be community-oriented and health-oriented and, for this reason, attitudes and motives must be examined.

Early detection and treatment has aroused a certain amount of interest (e.g. the screening test: Ygt). None of the present tests is absolutely reliable but it may be possible to institute a battery of biological and psycho-social tests.

Specialized treatment and follow-up has also been discussed. It would be advisable for the specialist teams to establish a consultation system (Caplan) to back up the professional and voluntary workers of the first stage.

In any case, before launching a preventive action programme, the aims, means and methods of assessment must be carefully studied.

IV. THE WORKING ENVIRONMENT

Most attention seems to be given to the impact of the above risks on the working environment. I prefer to refer to the studying and working environment and the non-working environment. The problem of unemployment is arousing concern, and there is certainly a connection with alcohol consumption.

There is no time to enlarge upon this point. I should simply like to say that I am surprised that so little concrete information in this field has been presented at the seminar. Luckily, we have enough scientific data to be able to define the alcohol-related disabilities which appear particularly in this environment.

I would also mention the suggestion made that our work should revolve round the industrial medical officers or, better still, the medico-social teams in industrial firms.

V. YOUNG PERSONS

Without wishing to accuse young persons of being risk group Number One, I still feel that our work should be concentrated on adolescents and young adults.

There are two reasons for this:

Firstly, in all the countries represented here, the alcohol consumption of young persons is increasing, i.e. there is no doubt that the age at which people start drinking alcohol has gone down considerably. As for the existence of serious problems in this field, there are some, but they tend to be exaggerated.

Secondly, and this is connected with the first point, it is necessary to aim at very low age groups in the hope of achieving results with prevention programmes.

I also mentioned young adults because, in the course of a study, we have observed that a hard core of young persons become extremely dependent very quickly, and when they belong to the lower social classes they are more likely to go to prison than to hospital.

CONCLUSIONS

In order to achieve concrete results, I think that we should set up a European working party which is representative of all the countries, the main disciplines, the fields of action (e.g. prevention and research) and the institutions which organized this seminar.

The members must be influential persons capable of setting up working parties in their own countries modelled on the European working party.

The aims of this working party might be: an overall list of the risks of alcohol consumption, concrete proposals for pilot research schemes applicable in all the countries, standardized reporting methods in all the countries and longterm recommendations for preventive action backed up by research action programmes.

Priority could be given to the following fields: prevention (self care, consultation), the working environment (as part of society as a whole) and young persons (as part of the population as a whole).

These are my practical suggestions but, in my opinion, reliance on positive human capacities must be a central theme of any action taken.

In this period of general crisis, he must avoid a suicidal attitude since this will mean that all our efforts are condemned to failure, however up-to-date they may be.

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DEFINITION OF THE RISKS

M. Jean Trillat

In seeking to define the risks, one must cover the following aspects: the production and marketing of alcoholic products, paying particular attention to the problem of advertising; the collective aspect of the phenomenon in its economic, political and social implications - the wine problem must then be treated here next and the related legislative and regulatory aspects; I shall conclude by developing the principle of moderation as a guideline, dwelling particularly on the high-risk groups.

I. ALCOHOL AS A COMMODITY

The most important fact to be borne in mind here is the enormous quantity of alcohol on sale, in particular in the Community countries, at a relatively moderate price.

Secondly, there is the question of quality, i.e. the great variety of alcoholic beverages available for consumption. This includes beverages with a moderate alcoholic content (and it is precisely these drinks - wine and beer - the public does not always consider as genuine alcoholic beverages, so deep-rooted have consumption patterns always been) and the 'strong' drinks. Some of these are luxuries, consumption being dictated by fashion (whisky, for example).

II. MARKETING OF ALCOHOL

The marketing of all alcoholic beverages is extremely well organized throughout the entire territory of the Member States.

The price of alcoholic beverages, which are highly taxed, has increased considerably, but not more rapidly than living standards in general.

Thus it can be said that the EEC countries are literally swimming in alcohol, which is produced in large quantities and widely distributed.

III. ADVERTIZING OF ALCOHOLIC BEVERAGES

Considerable sums are invested in advertizing alcohol with a view to raising consumption.

Certain countries are attempting to limit this advertising by regulatory means. The various provisions are either insufficient or too complicated, and in any case ineffectual. Moreover, the inventiveness of alcohol producers and advertisers is such that they succeed in finding loopholes in the legislation. Finally, precisely because of the disparity and the complexity of national provisions, the Community authorities regard such regulations as to some extent discriminatory and hence contrary to the provisions of Article 30 of the Rome Treaty. However, alcohol - a dangerous product if consumed to excess - is not a commodity like any other; under the provisions of Article 36 of the Treaty it should be possible to limit its distribution in the interests of public health and safety and of law and order in the Member States.

IV. COLLECTIVE ASPECT: THE ECONOMIC PROBLEM

With the exception of wine, there are no restrictions on the production of alcohol. It is hard to see how it could be limited; only the realization, at Community level, of the hazards it presents could lead to such measures being envisaged.

The production of alcohol is an important economic activity in the fields of agriculture, industry and trade.

The particular problem of wine deserves detailed attention. In this context it should be borne in mind that viticulture and the manufacture of wine are agricultural activities and that as such they fall under the Common Agricultural Policy. The Community thus proceeds by means of regulations; which are directly applicable in the Member States and override national provisions.

It is essential and inevitable that the wine problem should be solved sooner or later. Possible solutions should be sought along the following lines:

- by reducing the supply through the definitive uprooting of vines against compensation, in regions which are not recognized as primarily wine-producing areas.
- by abandoning demagogic measures which have the effect of perpetuating the production of low-quality wines, which are produced in order to be destroyed by distillation.
- by systematically promoting quality wines, the price of which must be high enough to ensure profitability.
- by searching for new products and corps to replace vines.

V. COLLECTIVE ASPECT: THE POLITICAL PROBLEM

The existence of common interests and the wish to defend them against attack leads to the creation of pressure groups. Entire provinces consider themselves as insufficiently supported or even sacrificed to the benefit of outside interests. This feeling is often aggravated by the fact that certain alcoholic beverages (wine) are produced in poor, non-industrialized areas, where they provide virtually the only source of revenue.

However, it must be pointed out that the combating of alcoholism involves a political choice.

It is unacceptable - and the public realizes this - that governments should at the same time promote the campaign against alcoholism and, tolerate or even encourage the production of alcoholic beverages, and the extensive and frequently outrageous - advertising in their favour.

VI. COLLECTIVE ASPECT: THE SOCIAL PROBLEM

Formerly, and indeed until recently, the problem of alcoholism was related to a certain social context in which poverty was predominant. To a certain extent, this is still true today. At the same time, however, there is a certain type of alcoholism which is related to an increase in living standards.

What one might call 'jet set' alcoholism is somewhat different. It affects circles with a very active social life; it is also strongly influenced by fashion and by snobbery.

Finally, the social aspect of the alcohol problem must be examined from the standpoint of both sex and age.

Alcoholism amongst women is increasing considerably in all countries.

Alcohol consumption is also on the increase amongst young people everywhere.

However, young people prefer other (stronger) alcoholic beverages than their elders and take them in different circumstances (less regularly, during get-togethers). This may explain the constant fall in wine consumption in France.

VII. LEGISLATIVE AND REGULATORY ASPECT: ALCOHOL AND THE LAW

Should the production and consumption of alcohol be regulated? What should be regulated? And how?

Certainly, the production and consumption of alcohol should be controlled. One cannot simply let things take their course.

Controls must doubtless also be imposed in order to guarantee a degree of prevention.

Controls are necessary - but must they be of a repressive nature? This is a serious problem involving respect for individual liberty.

Nevertheless dangerous situations due to alcohol must be eliminated, at least when third parties are at risk; this is so in the case of drunken driving, the source of so many accidents - accidents which have frequently led to the death of innocent people.

CONCLUSIONS

A number of conclusions can be drawn, pointing in several directions:

1. Large-scale and decisive Community action is required, in conjunction with the WHO, the governments concerned and, of course, with private, non-government organizations.
2. Preliminary research should be conducted in a number of fields:
 - standardization of data and definitions;
 - research on education programmes. What should be done at Community level?
 - research on occupational health and ways of imposing it, with the participation of the social partners, which is essential to any success in this delicate area.
3. Awaken public opinion by removing the stigma of guilt from the alcoholic and removing the myth of alcohol as pleasure. Probably the alcohol 'myth' will have to be countered by another 'myth', for example that of the automobile, which is one of the most widespread, and the campaign against drinking and driving would appear to be a good starting point for stimulating public awareness of the problem.
4. Put across a positive message. It is not a good idea to be always saying 'don't!'; it is better to say 'do this', 'do that'.

What is the main positive message? Clearly it is MODERATION, since it would be a mistake to return to preaching abstinence and prohibition. We should rather look for substitute beverages and new products.

5. A strategy should be worked out by cooperation with the various Commission directorates concerned and the World Health Organization.
6. A multidisciplinary European working party should be set up to put forward proposals which, once approved, could be submitted to the governments of the Member States in the form of recommendations.

THE CONTROL OF ALCOHOL AVAILABILITY AS A MEANS OF PREVENTING DAMAGES TO HEALTH AND WELL-BEING.¹

J. de Lint

It is evident, Mr Chairman, from surveys, from day-to-day observation, from personal experiences, that there exists considerable variation in the intake of alcoholic beverages. Some people drink relatively small quantities, others drink excessively.

The nature of the relationship between these different levels of consumption is not so evident. The only way we can ascertain information about consumption quantities in populations is via purchasing statistics, self-reported estimates of consumption, blood alcohol levels. Only for a limited period and for a small group of people it would be possible to make direct observations of consumption (i.e. in a tavern during an evening's time).

But these indirect measures have shown the frequency distribution of drinkers according to their individual consumptions to be continuous, unimodal and of a type first proposed by Sully Ledermann.

Now, if such quasi-mathematical relationship does in fact exist between the different levels of consumption in human populations, it would follow that:

- (1) alcohol consumption behaviour of each drinker is of some relevance in the aetiology of excessive consumption; and
- (2) a reduction in the rate of excessive consumption can only occur if the rate of consumption at other levels is changed as well.

The original argument about this relationship between levels of consumption has been expanded in two directions. Studies on the efficacy of legal measures have suggested that the availability of beverage alcohol - specifically its real cost to the consumer - has an influence on average consumption.

And, on the opposite end, it is now evident that the incidence of many diseases and behavioural disorders is quite sensitive to the rate of excessive use.

In addition to an expansion of the argument in the direction of both availability and damages, there have also been some modifications of the original Ledermann proposal.

It is now recognized, for example, that the distribution model can only provide an approximation of the number of heavy consumers in a population.

As I mentioned before, consumption can only be investigated via other behaviours and conditions, e.g. self-reported estimates of consumption, frequencies and quantities of alcohol purchases, degree of intoxication at certain points in time.

Although there are many difficulties associated with the use of these indices, it is significant that the results of such consumption studies have been fairly consistent with the frequency distribution model first proposed by Ledermann.¹, 5, 7

It may well be, as some critics have argued, that the frequency distribution of consumption is not logarithmic normal. But whether it belongs to the logarithmic family, the gamma family or some other class of distribution, is really of no importance. After all, the significant contribution of Ledermann is not the specific formula he proposed, but the recognition that some quasi-mathematical relationship between levels of consumption does exist and that therefore variation in consumption averages implies variation in the rate of excessive drinking.

That alcohol consumption levels may change without a corresponding change in the rate of excessive use, is indeed very unlikely. Thusfar all the many data pertaining to consumption and associated problems that have ever been reported in the alcohol literature do show that a change in consumption affects the rate of excessive use.

One should therefore not argue that difficulties pertaining to the constants in the Ledermann formula or its application to produce specific counts invalidate the close relationship between consumption averages and excessive use. The latter has been demonstrated many times which means that: if in some population a change in consumption occurs, it is again highly probable that a corresponding change in the rate of excessive consumption will follow.

I would agree with some critics that there are no convincing theoretical reasons for the absence of major variation in dispersion from the mean between populations and more specifically for the type of curve Ledermann has proposed. Consumption behaviour in human population is undoubtedly rather complex and involves numerous factors. To observe that we are influenced by the behaviour of others and that beverage alcohol is an addictive substance does not adequately explain the manner in which drinkers are distributed according to their consumptions.

I find Ledermann's 'boule de neige' explanation rather attractive because it is unsophisticated, unpretentious and even a little mysterious. It is not convincing, but to expect a convincing theory of human consumption behaviour is asking too much.

It is, indeed, difficult to refute the curve empirically and in this connection I would like to know what the critics of the frequency distribution theory would have done themselves with the many relevant observations from the alcohol literature that have been accumulating. I have no doubt that it may be possible to improve on the Ledermann curve, for example, by modifying the constants in the relationships between different levels of consumption by allowing that some of the variation in excess use from one population to the next is not solely determined by variation in consumption averages.

But the main proposition that may be derived from Ledermann's work (and that of others in this area of epidemiological research) still stands, namely that a change in the average consumption of alcohol is likely to be accompanied by a change in the same direction in the proportion of heavy drinkers and that, therefore, measures affecting total consumption are likely to affect the prevalence of alcohol problems associated with heavy drinking.

Now, with regards to these problems, I like to draw your attention briefly to some research findings.

Cahalan and others have found on the basis of their drinking surveys, that - generally speaking - excessive consumption precedes social problems.² Mendelson has concluded from much experimental research that withdrawal symptoms are more severe where consumption is excessive and prolonged.⁶

Studies in alcoholism clinics have shown that patients seeking help for their addiction and associated problems consume at the average 25 cl. of absolute alcohol daily.⁴

A variety of information on cirrhosis of the liver (correlational and clinical) has clearly implicated heavy consumption in the development of this disease.³

There are in fact a good number of problem behaviours and diseases which are typically preceded by the chronic excessive consumption of alcohol.

I am aware, that the precise role of excessive alcohol consumption in the aetiology of these behaviours and diseases is difficult to determine and that many factors are also significant. Nevertheless the evidence is overwhelming that a higher rate of excessive use will result in a higher rate of such problems.

This leads us into the final part of the argument, namely the alcohol political issue.

A suicide, fatal injury, cirrhosis, premature deterioration of brain function, premature aging generally, broken home, are among the alcohol-related problems for which there is no therapy. In other cases of damage the chances for successful therapeutic intervention are small.

In my view preventive programs are needed and must include attempts to stabilize the pandemic trend towards increased alcohol consumption.

This is, of course, a sensitive issue and the argument for it is often misunderstood.

It is said that this amounts to massive social engineering, that price increases will hurt the poor; that it means trading off one alcohol problem for another; that it affects the freedom of the individual social drinker (the majority); that we need more data, more experiences; that one ought to look - again - at other so-called models of prevention, i.e. a better society or better educated drinkers; that the whole argument is too simple.

Let us examine some of these objections.

The massive social engineering in my view has been the rapid liberalization of alcohol control policies, the dramatic lowering of the cost of alcohol for the last 20 years or so. These alcohol politics, this relaxation of controls, have resulted in increased consumption and increased rates of problems. We have therefore many social experiments to show what can be achieved through alcohol politics. We now ought to put these experiments in massive social engineering to rest.

It is also argued that there is not enough evidence to reactivate alcohol controls. But where is the evidence that supports present alcohol policies? Are we going to continue believing that in each different instance of medico-social damage we will eventually isolate a biological or psychological factor which can be as easily manipulated as the use of alcohol?

In this connection I really begin to wonder how many more data are needed before it is recognized that among all other preventive programs we need to control the availability of alcohol.

Is there perhaps another interpretation of the many data that have been accumulating on the effects of price on consumption, on the relationship between different levels of consumption, on the rôle of excessive consumption in a variety of damages? Of course, there are criticisms of specific points and, as I said earlier, the public health argument for controls on alcohol availability based on the Ledermann curve has been modified in recent years as a result of these criticisms. I have no doubt that biological and psychological factors play an important rôle in the development of each distinct behavioural disorder and disease that together comprise the alcohol problems.

But the level of alcohol use in a population is a major factor in many of these problems and the present alcohol policy which results in elevating the level of alcohol use and therefore the prevalence of these problems is not in the interest of public health.

Mr Chairman, I often wonder why even relatively modest proposals, amply documented, meet with so much criticism. The alcohol availability argument does not challenge but merely complements the many clinical experiences in the field of addiction or the large number of biological and psychological data that have been gathered over the years.

And indeed, there have been several instances where the frequency distribution of consumption theory has been successfully integrated with other lines of research. I am looking forward to Mr Schiøler, the next speaker, to enlighten me respecting this question.

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A DISCUSSION OF THE RISKS RELATED TO ALCOHOL USE

With some remarks about the applicability of price-increase techniques as a control device.

P. Schiøler

I have chosen to devote my participation in this discussion to an analysis of some of the consequences of the political fact, that our politicians and community-leaders, as well as the workers in the press and other media, are in the possession of a fairly big amount of so-called hard data describing a diversity of more or less isolated elements of the alcohol related problematics.

But first I will attempt to answer Jan de Lint's question to me and others, as he put it in the preceding presentation:

'What would the critics do with all the data that in a convincing way turn up all over the world?' referring to the control policy model and its background data.

I, for one, study the data, trust most of it, and endeavour to utilize these facts in their proper contexts within the total approach to the solution of the problems facing the community and its individuals. This is said with a great respect for the important, indispensable work of the Toronto group, and not least Dr Jan de Lint's participation in it. In the following I hope that my prepared statement will throw some light on this reaction to Jan de Lint's friendly question.

Denmark, as I already stated yesterday faces the common situation that less than 10% of the alcohol consumers drink about 50% of all orally consumed alcohol (1977). This information only relates to the total consumption. In the case of beer we have reasons to believe that the corresponding figure is closer to 25%. For wine we believe that under 8% drink half of these beverages. Stronger spirits may be close to the total consumption in its distribution.

These discrepancies of the distribution graphs and therefore also in the eventual applicability of the Ledermann formula, are probably caused by the presence of a large diversity of patterns of drinking, even within the prevailing and widely accepted norms and value system.

The differences are met in different sex, age, level of education, type of work and other parameter-related groups distributed unevenly in the total population.

These patterns of drinking do depend on and relate to prevailing attitudes, but it must be realized, that the patterns, in their processes of change, may lead, of their own force, to attitudinal motility observable as a means of evaluation of preventive activities.

The differences are doubtlessly also found in other countries than Denmark. They may even be distributed differently from one province to another in all of the member countries in the EEC.

It seems, therefore, to have little meaning to correlate the total, or average, or mean, consumption with any specific diagnostic criteria within the concept of Alcohol Related Disabilities. We learn very little from it, and what we may think we learn may be exceedingly irrelevant, a fact that leads to greater methodological difficulties in the interpretation of the positive or negative correlation found.

This is, of course, particularly evident for the political application of apparently easily compiled data on somatic diseases, having an especially high positive correlation with certain isolated parameters describing a social or medical anamnesis comprising shorter and/or longer episodes of alcohol related health disturbances.

I think it is timely to warn political decision makers and community leaders as well as the press and the media, that such data are relatively easily compiled on the consumption side of the correlation, while the realization of the alcohol related disability depends upon whether the person involved (patient, client, defendant, insurance claimant) is considered to be a patient, a social client, or a defendant before the court, or just a downright immoral deviant.

Different societies, and within them, different communities, are equipped to a very varying extent with those instruments that must be used for the very discovery of any symptom or syndrome leading the individual into a contact with the emergency ward or the out-patient service, the social service, into the family trouble discovered for instance through the disfunctions of children in schools, or of the adults in their employment situation.

This dissimilarity in the sensitivity of the public diagnostic instrument seriously casts doubt on the applicability of any criteria within the narrow concept of somatic disease in correlative studies. Therefore, the applicability of such studies for policy development or decisions about restrictions, preventive efforts and the difficult decisions of priority on the amount of financial facilities offered to the alcohol related fraction of the total system of psycho-social services, is limited.

One further aspect is that those communities that are equipped for early discovery of symptoms, such as the development of somatic disease relatively strongly prevailing among clients with high consumption, will observe a relatively low prevalence of these diseases.

Contrarily the less susceptible social service systems will face late discovery and thereby a relatively higher prevalence.

The problems of treatment and thereby the evaluation of the treatment modalities will be much more difficult in the less sensitive communities than in those able to maintaining early discovery. This also depends on how much

discovery, diagnosis and motivation must be applied before a person accepts the treatment open to him or her. We may here have an explanatory element to our understanding of why some communities believe in high recovery reestablishment of controlled (or 'responsible') drinking; while others deny these possibilities all together.

We are brought along the same line of thought if we attempt to include more symptoms than the somatic disease (alcoholic liver cirrhosis) in our definition of the concept of alcohol use related harm.

If, namely, a diversity of symptoms such as unemployment, family trouble, breakage of education or vocational training are studied and in due course included in some additive way together with the somatic elements of our definition, we encounter another difficulty. Two communities having the same mean total consumption of alcohol and the same prevalence of somatic disease, proving the same sensitivity of the discovering instruments, will rarely have the same sensitivity towards the psycho-social elements in the syndrome or within the concept of alcohol-related disabilities.

Any comparison will therefore fail. It is tempting to say that any observed clear positive or negative correlation between total or mean consumption of alcohol and the amount of the alcohol related disability may be accidental. Even if this is not the case, we do not at present have sufficient evidence to prove anything in this field.

Another aspect is the very nature of the distribution-models presented frequently since 1956. Mathematical models must not dictate our approaches. They are exclusively meant as an attempt to systematize a description of some isolated elements, and their nature is iteration and approximation. Human life and functioning is not as simple as mathematics.

Moreover, if we think of two different populations again having - for reasons of simplicity - the same average annual consumption one of them may show that a small proportion of the users consume greater part, while the other may have the same fraction distributed on a significantly higher part of the population. In these two societies the predictive relevance of alcohol consumption will be difficult to assess.

The same type of difficulties again arise if we try to compare two societies in which one as for instance the USA have an abstaining population of some 40% of the total population, and for instance UK or Denmark, where at the highest 5% are abstaining. Even after correcting for different total or mean consumption the relations between prevalence correlations, especially of somatic drinking consequences, will be highly doubtful as a source of basic information.

When all this is said it becomes a necessity for me to underline the importance of the work of all those research workers all over the world who have added in a meaningful way to our collection of hard data, and to their systematization and interpretation. Especially the work of de Lint and Schmidt and others in Toronto should be mentioned for its ubiquitous carefulness with respect to many of the shortcomings of the hard data in front of us.

Less positive phrases might be used about many groups that utilize this important work for purposes of their own ideology or political aims. This kind of work is just not ready for such application. The same must be said about the newer observations on genetical elements in the etiology of what is called 'alcoholism'. It is still not clear what the full meaning of this observation may be within the total concept of alcohol-related disabilities.

Another line of thought that seems to me to be much more promising is that based on some so-called soft data.

One way among many of introducing this kind of thinking is to ask some questions:

Yesterday it was reported that, in Denmark, out of the total 4 million users, only about 5% become excessive drinkers, and that out of these only 5-15% do come into contact with the treatment facilities. We may assume that all who are able to obtain such contact and are willing to establish it will find the facilities open and ready to receive within a reasonably short period of time. Then -

Why do not all excessive drinkers develop the typical symptoms of the harmful effects of excessive drinking? What, if any differences, may be observed between these two groups? Are they in fact evenly distributed among the population, as they should be if alcohol use and 'misuse' are the only harm-evoking factors?

I would at this point suggest that our thinking should be much more 'situation oriented', and not just 'alcohol use oriented'. It gives little meaning to consider alcohol as the only harm-evoking factor in all those cases where alcohol use carries with it some psycho-social, or even somatic, disabilities.

But, in the attempt to make a profound description of the co-factors, active alongside with the chemical ethanol, we depend on an amount of information about the situation, the conditions the user is or has been in when consuming alcohol.

This requires a number of studies giving soft data, soft in the meaning that they are not given as numbers, figures. These data will be qualitative. They are often difficult to assess without comparing them with any political, ethical or professional conviction governing the readers thoughts and work at the time of reading.

They are not easy to state in a brief and clear way. The soft data meet greater difficulties in penetrating into the decision-makers process of giving priority.

I should like to refer to my frequent discussions of the concept of psycho-social vulnerability and the psycho-social vulnerability increasing factors met with by all individuals in all types of society, in their everyday life.

The entire synthesis of activities meant to treat, prevent or reintegrate a deviant, sick, criminal and/or apathetic individual with an unusual social career is the most important target for the entire concerted action taken by a modern state on any level of administration.

For this reason I hope that the brilliant work of de Lint and Schmidt is balanced off with good analysis of the psycho-social situation in which our drinkers are, when they are exposed to the risks coherent in drinking, that is drinking alcohol in patterns outside those of the majority of users.

With these words Mr Chairman, I think that I will conclude these remarks. I only want to add that humane aspects of life are more complex than just a simple cross-tabulation may reveal. We will always get some result out of well prepared sociometric work done by good professionals.

My philosophical, but also very politically loaded question is, do we also see in these tables and graphs reflection of real life?

We must not forget the soft data even if they are more difficult to create programmes on, to write application forms on, to computerize, and to cross-tabulate, as well as quote in brief advisory notes in the middle of a political situation such as any one every politician will invariably be passing through.

When remembering this it will be of equal importance what we learn from hard and from soft data.

GENERAL DISCUSSION AND RECOMMENDATIONS

All agreed that alcoholism is becoming more prevalent, and noted with concern its spread among women and young people. Various causal factors were cited, including the extensive availability of alcohol, which in real cost terms is becoming cheaper, the trend towards higher alcohol concentrations in beer, the increasing efficiency of distribution of drink, the effect of increasing affluence and the impact of publicity and advertizing campaigns. It was also observed that alcoholism did not appear to be related to the formal political structure of the country, being as problematic in Eastern Europe as in the West. It was emphasized that the EEC needs to be much more aware of its alcohol problems.

In reviewing various control policies, discussion centred around the Ledermann hypothesis. Dr de Lint said that the original Ledermann model had been perhaps over-ambitious; it should serve only as an approximation to the real distribution of consumption frequencies, and moreover it was capable of being tested only indirectly, for example by self-report data, sales figures, etc. However, mathematical precision was perhaps not very important; the general relation between average consumption in a community and the proportion of excess consumers remained unchallenged while measure of dispersion (of the frequency distribution of consumption) appeared to be reasonably constant. It was also argued that high consumption led to a greater risk of alcohol-related problems and that abundant data already available indicated that the only effective method of controlling the rate of such problems was by reduction of the average consumption in the community.

Other speakers stressed the need for more information concerning vulnerability factors. They commented that distributions of consumption varied according to the beverage being considered and demographic sub-groups of the population; further, different countries have different proportions of total abstainers. Correlational studies were handicapped by criteria of abuse which varied according to the agencies involved, and these differences led to differences in prevalence estimates.

The majority view favoured comprehensive educational and control policies, with fiscal constraints playing a major role.

RECOMMENDATIONS

1. POLICY

(a) The EEC, as a matter of urgency, should review its current economic policies in order to minimize the hazard from alcohol to health and social well-being. In particular, the EEC and individual Member States need to consider their policies on alcohol production and its promotion, with a view to restricting its current widespread and excessive consumption.

(b) There is a need for Member States to harmonize their standards concerning the blood alcohol concentrations in relation to dangerous driving regulations, and to establish uniform levels with regards to other hazardous contexts such as industry.

2. RESEARCH

The following projects should be promoted:

(a) A study of the role of social class as mediating the relationship between high alcohol consumption and its various consequences.

(b) Studies of enzymes polymorphism, especially ADH, in relation to drinking patterns and the complications of excessive consumption.

(c) Investigation of the optimal methods of collecting data on alcohol production and on consumption patterns, with particular reference to the frequency distribution of consumption levels and their relationship to alcohol-related morbidity.

(d) To explore the possible aetiological role of alcohol as contributing to diseases currently not regarded as alcohol-related, for example, carcinoma.

(e) To investigate the role of alcohol as a hazard to safety in the work environment and as possibly synergistic with industrial toxins such as solvents, fertilizers and carbon dioxide, and also to determine the magnitude of the risks associated with alcohol abuse in the home, the roads and in society at large.

(f) To identify effective techniques of health education, with special reference to the young.

(g) To pursue studies of public attitudes to alcohol and its cultural connotations.

(h) To establish standards for (a) the operational definition of alcohol-related disability, (b) methods of investigation and assessment and (c) reporting instruments, for use in collaborative studies.

3. PREVENTIVE PROGRAMME

(a) There is a need to examine carefully and to compare existing alcohol control policies (including taxation measures, opening hours, age limits, beverage strengths and distribution). In due course, controlled evaluative studies of preventive and early detection programmes should be mounted.

(b) Existing data should be closely analysed, and new data obtained if necessary, to determine the feasibility of setting safe limits for alcohol consumption as a guide to health and social well-being.

4. PROPOSALS

(a) To promote the above group of research projects.

(b) To encourage Member States to accelerate their own research into alcohol-related disabilities, on a co-financial basis where appropriate.

(c) To establish a mechanism for the regular collection and publication of basic data.

(d) To collaborate fully with the work of WHO, UNESCO and other international bodies in the alcohol field.

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European Communities — Commission

EUR 6112 EN — Seminar of the medico-social risks of alcohol consumption

Luxembourg: Office for Official Publications of the European Communities ·

1979 — 225 p. — many figures and tables — 16.2 x 22.9 cm

Medicine series

DE, EN, FR

ISBN 92-825-0924-9

Catalogue number: CD-NJ-78-004-EN-C

BFR 600	DKR 110	DM 37,20	FF 87,20	LIT 17 200
HFL 41,40	IRL 10.10	UKL 9.90	USD 20.70	

Since 1950 there has been a striking increase in the consumption of alcoholic beverages in the Community and the resultant deterioration in health is likely to pose serious problems, particularly if we consider the population groups which are most seriously at risk (risk groups). A multidisciplinary scientific approach should permit an objective evaluation of the risks, which could serve as a basis for action — under the heading of health education — of a type acceptable to the populations affected.

It is vital that the Community's action programme in the field of health risks due to alcohol should tally with the approach adopted by the World Health Organization.

Hence the organization by the Commission, in collaboration with the Regional Office (Europe) of the WHO, of a seminar whose practical objectives included the elaboration of 'orientations and guidelines' with a view to the approval and execution of research activities in the medical and public health areas. Furthermore, the importance of the psycho-social aspects was reflected in the presence at the abovementioned seminar of representatives of the International Council on Alcohol and Addictions and the participation, through that body, of the various leagues and associations concerned with the problems of alcohol.

One of the questions which presently remain open is that of ascertaining the statistical data which would permit the quantitative evaluation of the health risks and therefore a decision on how to carry out the epidemiological surveys. A Community initiative could well play a useful role in this area, in association with the WHO.

Preventive measures can be based on comparison of the characteristic data and the results already obtained by specific actions. The targets of this difficult exercise are not only the specialists in the fields of medical, social and human sciences but also, and perhaps primarily, the general public on whom will ultimately depend the success or failure of a programme aimed at protecting the health of the population.

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OF THE EUROPEAN COMMUNITIES

ISBN 92-825-0924-9

Boîte postale 1003 – Luxembourg

Catalogue number: CD-NJ-78-004-EN-C