

## CHAPTER FOUR

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# DRINKING PATTERNS AND THE LEVEL OF ALCOHOL CONSUMPTION: AN INTERNATIONAL OVERVIEW

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### 1. INTRODUCTION

It is common knowledge that the level of alcohol consumption varies greatly from country to country and between different populations. This variation is related not only to demographic characteristics but also to cultural patterns, attitudes, and traditions. It has been almost as widely observed that the consumption levels are on the rise in most countries and populations at the present time, independently, one might be tempted to say, of the very same factors that seem to determine the variations in alcohol consumption cross-culturally.

The aim of this chapter is to describe the trends of growing consumption. Although I shall adopt some interpretative theoretical concepts for the purpose of organizing the diversity of statistical observations to be presented, I do not intend to offer an overall explanation of the trends. In my view, such explanations would, in principle, be vulnerable at the level of international comparisons because of the very great differences in social conditions that may be related to alcohol use and the diversity of cultural and historical traditions of drinking itself.

An explanation of the trends in a cross-national overview would presume that identical phenomena underlie the changes in the consumption level in all countries concerned. In fact, in what follows it will be suggested that, in a certain sense, this may really be the case. The increase in total alcohol consumption is perhaps, after all, a similar phenomenon even in some of the

most contrasting conditions relating to the use of alcoholic beverages—but then this is a result, not an assumption.

Another difficulty in explanations of such general nature is that there are many kinds of possible causative factors that may affect the trends in alcohol consumption, even if these trends could be described in uniform supracultural terms. To name just a few, increasing general level of consumption, longer leisure hours, improved education, urbanization, and liberalization of the moral climate could be offered as explanatory factors for an increase in alcohol consumption. To assess the importance and interrelationships of such factors, a comprehensive theoretical system relating these phenomena to alcohol consumption is needed, but also detailed historical studies of alcohol consumption in each particular national situation will be necessary. This cannot be attempted here beyond the point of illustration.

Even with the modest aims of this paper, it is important that the descriptive concepts have *some* bearing on the possibility of finding causes for things, that is, for explaining them historically. In this respect, the basic point of departure of this presentation is that alcohol consumption is an aspect of general consumer behavior and as such can be seen as an object of economic analysis. In fact, there is a multitude of econometric studies about the elasticities of alcoholic beverages with respect to their price, consumers' income, and the prices of other commodities (25, 44). The values of such parameters of the econometric models can be of great practical significance as a device to be used in designing rational price policies, and they can be of interest from the standpoint of some theoretical approaches as well. However, for the interpretation of international consumption trends, the econometric approach is insufficient, although not useless, of course. In most cases it would be possible to develop a demand model with income and prices as independent variables and alcohol consumption as dependent variables. There are other aspects in alcohol consumption, however, which the statistical covariation in time or across a population of these variables would not reveal without further interpretation.

The most important of these is probably that consumers do not buy alcoholic beverages any more than other commodities merely because they can afford to, but because they have a need to do so. It is also likely that the quantities purchased depend on the particular uses to which the commodities are put. Also, the amounts in which certain commodities are used annually are related to the allocation of national productive resources and external trade capacity.

Considering the great historical and traditional differences in drinking cultures, it would therefore be unreasonable to expect that an econometric analysis could, in itself, explain the quantitative differences prevailing in the

consumption of particular commodities between different periods or societies.

It is true, econometric studies can, in a certain way, be useful for the description of the different types of needs for which alcoholic beverages, among others, are being used. It is often concluded, on the basis of the elasticity values, that some commodities seem to belong to the group of luxury commodities, and some are rather like necessities, being insensitive to changes in incomes and prices. The problems of comparability due to methodologic differences and divergences in the data are usually great for international comparisons, for which reason this information could not be used in this overview, although the available number of studies is impressive (for a summary tabulation of the results from such studies, see ref. 44, Appendix 1-3).

Accepting, then, that alcohol consumption falls within the sphere of economic theory and that there are many kinds of concrete, historically determined causative factors that may affect the extent of alcohol use in different societies, in this paper we shall limit attention to only one, but important, aspect of the consumption trends—the uses of alcoholic beverages.

There are many commodities that can be put to different uses, not only as raw materials, but also in private consumption. Striking examples are various synthetic or natural fibers or, quite simply, water. There is no reason to assume a priori that alcohol must, in this respect, be an exception without qualification.

In classical economics, the varying property of commodities that satisfies needs is often termed their use value. In contrast to exchange value, which signifies the exchangeability of commodities in certain relatively constant quantitative terms convertible into money (prices), use value indicates the usability of commodities in their functions to satisfy certain specific human needs, of whatsoever kind or origin. It should be emphasized that, to have a use value, a commodity does not have to be in any sense “necessary” to human well-being, whether physical, psychological, or cultural. Nor do the needs have to be necessarily “natural” in any sense, but they can also be “artificially” created by vanity, advertising, and so forth. The essential requirement is only that consumption of the commodity yield sufficient satisfaction to its consumer for him to be willing to pay a certain sum of money for it.

The concept of use value is always necessarily present in any analysis of the consumption process. In a commodity economy, it does not alone determine the structure of private consumption, which is also affected, as a matter of course, by the relative prices of commodities and disposable income, as well as by economic and financial interests, and so on. Without

it, however, the consumption of commodities by private persons and, especially, its historical and intercultural variation cannot be understood. At the same time, the concept of use value is a difficult one because of its very variability and the subjective elements that are often decisive in determining the usability of given commodities, including alcohol.

How, then, are we to decide what use values are important and what ones are not? What are the determining factors? It is often impossible to give any simple answer to these questions. It should be stressed, nevertheless, that use value is by no means solely a subjective concept. Although the same commodity can in many instances have several use values, of which one may be based on vanity and another on some essential need such as nourishment, it is often possible, however, to distinguish certain typical and dominant use values, which are determined by the technological stage of development of the society, the natural environment, traditions, etc. Uranium, for example, was all but useless until it was discovered how nuclear energy could be exploited, whether for purposes of war or of peace. Tar was highly useful as long as wooden ships were the most important means of navigation; but with the development of steel technology, its use value as an impregnating agent diminished greatly. The advances made in transport technology has had the effect that the use of fruits in the Nordic countries has changed from a luxury to a necessary part of the food economy. It is to be observed that the concept of use value can not be reduced to the physical properties of a commodity. The crucial element of a more or less extensive need always has a social origin.

Since the use values of consumers' goods also include elements of a subjective nature, their identification is exceptionally difficult. This applies especially to alcohol, the psychological effects and social implications of which are notoriously elusive. Certainly no absolutely accurate distinctions in this respect can be made. However, drinking patterns and the attitudes toward the use of alcohol, in many cases, reveal fundamental social and historical differences related to the use values of alcoholic beverages. In the following statistical analysis, therefore, drinking pattern is a central interpretative concept.

It should be noted, in this connection, that the concept of drinking patterns mainly signifies patterns that, in a sense, are typical or *average* in the social frame work concerned. Thus, this paper is not an account of *individual* differences in habitual behavior.

The study of use values in the light of socially typical drinking patterns does not spare us, however, from the problems of scanty research material. Drinking patterns have, to be sure, long been a central feature of alcohol studies. They have been brought into the discussion mainly to illuminate the drinking behavior of individuals, and the central parameters have been the

frequency of drinking and the amounts ingested at a single sitting. In surveys designed to shed light on drinking patterns, these parameters are often combined as a so-called quantity–frequency index, with several socioeconomic and psychological background variables being set up to explain the variance. In some cases, we do not get to know very much through surveys of this kind about the persons who use alcohol, where and how they drink it, what they themselves think of it, how much money they spend on it, etc. As a social concept, drinking patterns usually refer to the assumption that society upholds certain norms to regulate alcohol consumption—mainly to determine whether it is proper to drink at all, whether it is proper to get drunk, or whether it is proper to drink often and in small quantities or less often but correspondingly large amounts at a time (for examples of this type of studies see refs. 4, 10, 13, 56a).

Investigations of this kind are of value, of course, when average or typical drinking patterns are being studied, if it is assumed that drinking is invariably oriented to intoxication. They rule out the possibility, however, that drinking can have other aspects too. For the purposes of culturally sensitive descriptions of drinking patterns, it is therefore necessary to go beyond the quantity–frequency index.

The most important of those aspects of drinking, which cannot be equated with intoxication (although it may not be unrelated to it), is the use of alcohol as a nutriment to supplement the caloric and liquid content of a meal. To illustrate the kind of distortions to which overlooking this aspect in international studies could lead, let us compare the alcohol conditions prevailing in Finland and Italy in the light of a few figures. In Italy in the early 1950s, the consumption of alcohol was about 10 liters per capita a year. According to Lolli et al. (32), approximately 80% of this total was drunk as a beverage with meals, which means that between meals roughly two liters a year were drunk by the average Italian. The total consumption of alcohol in Finland around the same period was only about 2.5 liters, but in this country alcohol is not customarily brought to the table with meals. Kuusi (23) reported, for instance, that about 9% of the drinks taken prior to the interview were motivated by “a meal, thirst, a chill, a cold in the head.” Since the bulk of the wine drunk by Italians with their meals can scarcely be described as an intoxicant (32), and again, since the alcohol taken between meals can scarcely be considered to be primarily a nutriment, the conclusion is justified that the quantities of alcohol in terms of which it is easiest to compare Finns and Italians yield totals that are very much alike.

A similar observation applies to Poland, where the frequency of drunkenness (involving a blood alcohol concentration of over 0.1%) is more than double that reported for Italy, even though the Polish level of consumption is much lower than the Italian (59).

By confining our attention simply to examining the difference between Italian and Finnish alcohol conditions in the light of the norms and attitudes relating to drinking, we tend easily to confuse the food intake of one with the other's fun—and perhaps the other way around too.

The value of alcohol as a source of energy should not be underestimated. For example, according to OECD statistics, Italians obtain an average of about 6% of their total caloric intake from alcohol, assuming that wine contains 10 g/kg alcohol and that 1 g of alcohol amounts to 7.1 calories (42a). According to another estimate, the percentage may be as high as 25% for wide segments of the Italian population (4a). It is also interesting to note, in this context, that a joint WHO/FAO Expert Committee recently recommended that “energy derived from alcohol be included in the energy from foods in the estimate of national food supplies” (16a).

Besides the nutritional aspect, there are other use values attached to alcohol that have very little to do with the fact that this substance is most generally taken nowadays during periods of leisure for the enjoyment of its more or less agreeable intoxicating properties. Let us consider only, for example, the use of alcohol for medicinal purposes, which was quite common for example in the Nordic countries in the eighteenth century (11). Since, however, we shall give our attention mostly to societies where modern medical technology is at least known, if not applied in practice, and where, consequently, an all-purpose medicine like alcohol has very little use, we need not concern ourselves with this.

But there are many differences connected with the use of alcohol as an intoxicant that cannot be dealt with solely in terms of norms or attitudes toward drunkenness. The use of alcohol as a nondietary and nonmedicinal substance is likely to mean highly different things in various historical social situations. (I am not referring here to the fact that, to different groups of human beings, it naturally means different things, for even the mere description of the general historical picture is going to entail trouble enough.) For example, alcohol might be a rare luxury reserved for feasts; it might be nearly the only diversion during brief periods of leisure to break the monotony of constant hard work (53); it might be the workman's way of maintaining social relations with his friends (50); or it might be associated with seeking contacts of the opposite sex, or with religious rites or other ceremonies.

Provided only that we can perceive with sufficient clarity the existence of and differences in drinking patterns and use values shall we be able to add to our understanding of the circumstances that influence the general rise in the level of alcohol consumption.

By such means, the general features of alcohol consumption can be set forth in an international framework and on a historically specific level. I hope to be able to say something about these over and above the observation

that the rate of consumption, as measured in terms of absolute alcohol, appears to be increasing generally nearly everywhere.

Three further limitations of the present analysis must be observed at the outset. The historical limits of the phenomenon of growth in alcohol consumption must first be noted, along with the phase covered by the present study. Table I shows that from the 1870s to World War II the trend in alcohol consumption was downward rather than upward in most of the industrialized world. The chief exceptions are the traditional wine-drinking nations, France and Italy, whose consumption has remained fairly constant. It can be said therefore that the decade of the 1940s marks a turning point in the evolution of alcohol consumption while being the driest period of the past century in the western world. It is possible and surely even probable that pressure existed in many countries, particularly the United States and Canada, as early as the 1920s and 1930s to raise the level of consumption, but such a rise was prevented to a certain extent by the great depression and war.

Secondly, although all the countries for which consumption statistics of sufficient reliability have been available are included in the quantitative study, the substantive results are applicable mainly to industrial countries—above all, the industrial countries of the West. This is due primarily to the fact that research data on the alcohol conditions prevailing in the developing world give only the bare statistics on consumption. It must also be observed that the changes in social conditions and way of living referred to in the foregoing as possible explanatory factors are either nonexistent in developing countries or, at least, are different in character from these phenomena as observed in advanced societies. It is for this reason that the developing countries included in the statistical survey serve mainly as objects of comparison, even though the data relating to them might have some intrinsic interest as well.

Thirdly, since the aim of the present study is expressly the description of the rising level of alcohol consumption in the international sphere, I do not intend to analyze on an empirical and theoretical basis the connection between the level of consumption and alcohol-related problems. It should be noted, nevertheless, that quite convincing evidence indicates that the prevalence of cirrhosis of the liver is closely connected with the consumption level. It would also appear that the general skew distribution of consumption affects this correlation to a fundamental extent (9, 28, 29, 48).

Leaving alcohol-related problems outside the bounds of this survey signifies a limitation essentially important here only insofar as they might, through restrictions imposed by political authorities or other social or economic mechanisms, have the effect of lowering the level of consumption or of restraining its rise. During the period following World War II,

TABLE 1 PER CAPITA CONSUMPTION OF 100% ALCOHOL IN LITERS IN SELECTED COUNTRIES (1871-1937)  
(17, 22, 49, 67)

Country	1871-1880	1881-1890	1891-1895	1896-1900	1901-1905	1906-1910	1919-1922	1925	1930	1936	1937
Austria	—	8.5	9.2	8.5	8.0	7.8	5.8	5.6	5.8	3.8	3.9
Belgium	10.3	10.2	11.4	11.7	11.3	10.6	9.0	9.4	10.8	8.1	—
Denmark	10.6	10.2	10.7	8.8	8.3	6.8	2.9	—	2.3 <sup>a</sup>	2.2	2.3
Finland	2.8 <sup>b</sup>	2.1 <sup>c</sup>	1.8	2.1	1.7	1.6	—	—	0.5 <sup>d</sup>	1.2	1.4
France	—	16.2	17.4	21.2	21.7	22.9	17.6	21.6	18.0	24.6	16.5
Germany	7.5	7.8	8.4	8.7	8.5	7.5	2.7	4.0	4.1	3.8	4.1
Hungary	—	8.0	6.6	6.5	7.5	7.6	5.7	3.0	3.4	3.3 <sup>e</sup>	—
Italy	—	13.3	12.8	12.5	15.6	17.3	13.8	15.1	14.8	13.3	10.0
Netherlands	6.5	6.4	6.0	5.8	5.8	5.0	3.0	2.2 <sup>f</sup>	2.4	1.3	1.4
Norway	3.5	2.4	2.8	2.8	2.7	2.4	2.0	2.1	2.3	2.0	2.1
Sweden	6.2	4.7	4.5	5.4	4.8	4.3	3.0	3.2	3.5	3.1	3.3
Switzerland	—	—	15.6	16.8	16.5	13.7	11.9	9.8 <sup>g</sup>	11.9 <sup>h</sup>	—	—
United Kingdom	12.3	10.4	11.0	11.6	10.9	9.7	6.3	5.9	5.2	4.6	4.7
Canada	10.8	9.2	8.1 <sup>i</sup>	—	—	—	0.5 <sup>j</sup>	0.6	0.9	0.6	0.7

<sup>a</sup> 1931; <sup>b</sup> 1876-1880; <sup>c</sup> 1886-1890; <sup>d</sup> 1932; <sup>e</sup> 1935; <sup>f</sup> 1926; <sup>g</sup> 1926; <sup>h</sup> 1927; <sup>i</sup> 1891-1893; <sup>j</sup> 1922.



mechanisms of this kind have not, however, to judge by the general evidence, had any marked effect, except, perhaps, in the case of France. Governments have sooner tended to relax the controls on the production, distribution, and consumption of alcoholic drinks and concentrated on the organization of treatment facilities for persons disabled by their addiction to alcohol (9, 37).

## 2. STATISTICAL GROUNDWORK

The material on which this article is based consists of data drawn mainly from international statistical publications. The statistics on consumption come mostly from publications issued by the Dutch alcohol producers' organization, *Produktschap voor Gedistilleerde Dranken*. They have been collected from this organization's annual statistical publication *Hoeveel Alkohohoudende Dranken Worden er in de Wereld Gedronken?* dating from the years 1962–1970 (20). The statistics on the production and trade of alcoholic beverages have been drawn from several sources, the most important of which are the *U.N. Statistical Yearbook*, the *FAO Production Yearbook*, and the *FAO Trade Yearbook, The Growth of World Industry* (United Nations), and the *World Trade Annual* (United Nations) (16, 16b, 60–62).

These sources have been tapped for a statistical compilation called WAP (World Alcohol Project) Data, which covers the production, foreign trade, and consumption of beer, wine, and spirits, and the population in the countries from which data could be obtained.

Material of this nature naturally contains errors and defects. The most important of these are the difficulties stemming from the inexact reporting of alcohol content, the inconsistent classification of beverages, the deficient registration on a national level of the amount of alcohol used in the production of distilled liquors, and—especially in the estimation of annual consumption figures on the basis of production and foreign trade statistics—deficient information on changes in stocks, the industrial utilization of wine and pure alcohol, and waste consumption. Illicit, untaxed, and other unregistered consumption is not usually included in statistics. (For information about the errors possibly due to these factors, see ref. 58).

More surprising, perhaps, and also more restrictive from the standpoint of any investigation, however, is the fact that general international statistics cover alcoholic beverages very poorly. Thus for the following review, the required information about changes in consumption could be obtained from no more than 32 countries.

In many instances, the data at hand are inconsistent and incomplete. However, to make it possible to utilize in the trend analysis all the relevant

information (random figures were not accepted for inclusion), the data from the early part of the observation period had to be rendered congruous. In Appendix 1, the methods used for this are explained in detail by countries. It should be pointed out here, however, that in the estimation of missing data it was not always sensible to apply any single consistent method—as, for instance, extrapolation on the basis of information available on the average annual change—but the more reliable procedure was to fall back on information not included in the material at hand, particularly for data relating to earlier years. In such cases, the value for the year 1950 was generally arrived at by applying to it the value for some proximate and probably corresponding year.

Figure 1, which represents the extent to which the WAP Data covers consumption, production, and international sales of beverages by the different types, shows, among other things, that, for the period prior to 1963, the sources of this kind include no data on distilled liquors and that the statistics on the beer trade starting backward from 1970 go back only to the year 1965. Regionally, it can be said that in the international system of statistics, alcohol is registered well wherever the official statistical system has been well developed. This means that information can be obtained best from developed capitalistic countries and from many socialist countries.

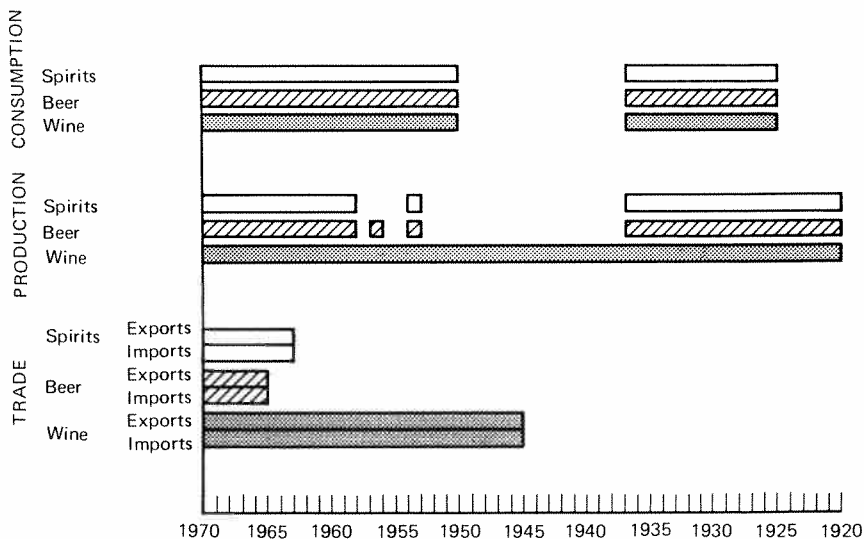


Fig. 1. Maximum information on the consumption, production, and international trade in WAP Data. The blanks in this diagram indicate that no information was available in the sources cited in WAP Data (57).

The data available from the socialist countries apply, to be sure, mostly to quite recent years. For the reasons mentioned in the introduction, this does not necessarily mean any fatal limitation. Alcohol conditions in developing countries are, at any rate, often hard to deal with in the framework of the kind of examination to be undertaken in the following sections.

### 3. STRUCTURE AND LEVEL OF ALCOHOL CONSUMPTION: TRADITIONS AND DRINKING PATTERNS

To gain an idea of the differences in alcohol consumption between various countries, we might start from the fact that the consumption is distributed very unevenly among the different regions of the world. For example, Europe, with its 455 million inhabitants, consumed at the end of the last decade about one-half of the alcoholic beverages covered by world statistics. The variation within the European continent, too, is great. The per capita consumption in terms of 100% alcohol ranged from France's 17 liters to Iceland's 3 liters. There are countries with a high level of alcohol consumption in other parts of the globe as well. Argentina, New Zealand, Chile, Canada, the United States, and Japan, together with the countries of Europe consumed roughly four-fifths of the alcohol used for drinking purposes throughout the world. The combined population of these countries, on the other hand, amounted in 1968 to about 800 million, or less than a quarter of the world total. Table 2 presents the combined share of the whole world's output in 1968 claimed by the five countries consuming the largest amount of each type of beverage, as calculated on the per capita basis. It can be noted that specifically wine consumption is most clearly

TABLE 2 CONSUMPTION SHARE OF TOP FIVE  
CONSUMING COUNTRIES OF TOTAL WORLD OUTPUT  
OF WINE, BEER, AND SPIRITS, 1968

Type of Alcohol	Consumption Share of Total World Output (%)	Share of Total World Population (%)
Beer <sup>a</sup>	30	4
Wine <sup>b</sup>	67	5
Spirits <sup>c</sup>	36	10

<sup>a</sup> Czechoslovakia, Belgium, Luxembourg, Australia, U.K.

<sup>b</sup> France, Italy, Spain, Argentina, Portugal

<sup>c</sup> Poland, Sweden, U.S.A., Yugoslavia, West Germany

TABLE 3 WINE CONSUMPTION AND PRODUCTION  
IN SELECTED COUNTRIES<sup>a</sup> IN 1970

Country	Consumption in Liters per Capita	Production in Millions of Hectoliters
EEC		
Belgium	13.9	—
France	112.0	74.4
Germany Fed. Rep.	16.9	9.1
Italy	114.6	68.9
Luxembourg	37.0	0.3
Netherlands	5.1	0.5
FINEFTA		
Austria	44.2	3.1
Denmark	5.9	—
Finland	4.1	—
Norway	2.3	—
Portugal	115.0	11.6
Sweden	6.4	—
Switzerland	40.8 <sup>b</sup>	1.2
United Kingdom	2.9	—
U.S.A.	5.0	11.7
Canada	4.2	0.4
Japan	0.3	0.2
Bulgaria	21.7 <sup>c</sup>	3.7
Greece	35.0	4.8
Hungary	39.0	4.4
Spain	61.5	25.0
Yugoslavia	28.3 <sup>b</sup>	5.4
Algeria	1.5 <sup>b</sup>	8.5
South Africa	9.3	4.2
Argentina	91.3	18.4
Chile	50.0	4.0

<sup>a</sup> EEC, FINEFTA, U.S.A., Canada, Japan, and a number of other countries, selected on the basis of a relatively high per capita consumption or total production.

<sup>b</sup> 1969.

<sup>c</sup> 1968.

concentrated in a few of the so-called wine countries of southern Europe and Latin America.

The national consumption of different alcoholic drinks is related to their production. The figures given in Table 3 show that, in all the countries where the consumption of wine per capita is heavy, wine is also produced in large quantities. An exception is Algerian wine production, which is nearly 10 million hl, although wine consumption remains at a very low level.

The ratio of foreign trade of alcoholic beverages to total world production is very low. For wines, it was about 10%, and for beer, about 5% in 1968. It is not possible to cite exact figures for distilled liquors, but since the exports of cognac exceed the domestic consumption of this liquor by about 400% and the exports of whisky from Britain exceed the domestic consumption by some 500%, the international markets in the sphere of distilled liquors must have greater relative significance (3).

On the other hand, in countries where the imports of any alcoholic beverage amount to a substantial proportion of its total consumption, that consumption is usually slight. With respect to wine, for instance, the fact is that in nearly all the countries where the share of imports is over 10% of the total consumption, that consumption is less than 5 liters a year per capita. The exceptions are West Germany and Switzerland, where the ratio of imports to consumption is 60% and 74% and the consumption 17 and 41 liters, respectively (statistics for 1970). In other words, in nearly all of the countries with heavy wine production, the average consumption per capita is also heavy; and, contrariwise, in nearly all the countries with a high level of consumption, the degree of self-sufficiency in the commodity is also high.

Compared with the volume of production, the export trade in beer is also relatively slight. Only Ireland (with about 40%) and Denmark (about 20%) export a substantial part of their production. On the other hand, only in Hungary does imported beer account for more than 10% of the consumption. Closest to this level comes Sweden, where foreign, mainly Danish, beer accounts for about 9% of the consumption—but this figure is falling.

In many countries, the production of alcoholic drinks has a long history. Even without a detailed study, it can be said that the development of the traditions in production has been affected by diverse social and environmental conditions. It has been pointed out that the production of wine and distilled liquors appears to depend—more than that of beer—on the availability of raw materials (57). Thus, the leading wine-producing countries are dependent on a favorable geographic location. In countries that produce distilled liquors, agricultural produce suitable for production of these liquors, such as grapes, fruits, grain, and potatoes—is generally abundant. By contrast, the production of beer appears to depend, to a lesser extent, on the domestic barley crop. Beer is largely the alcoholic drink of

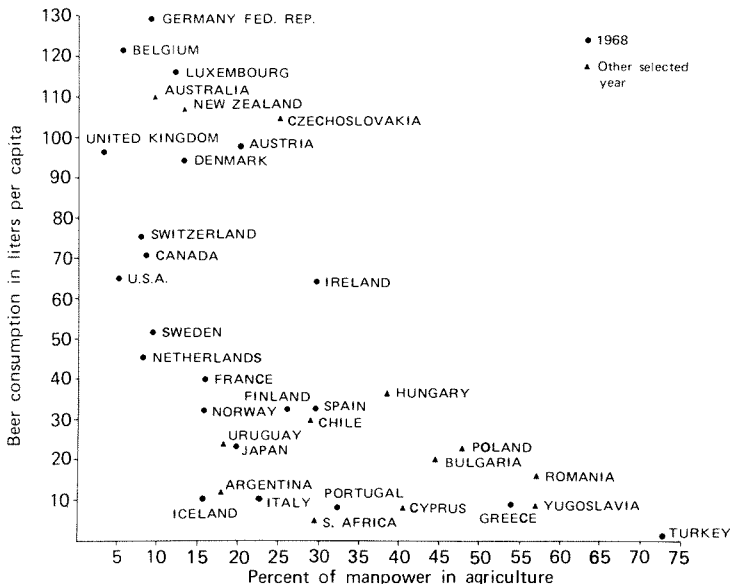


Fig. 2. Per capita consumption of beer and the percentage of manpower in agricultural occupations. *Notes:* The following list gives years for countries which have been marked with triangles: 1960: Argentina, Hungary, Chile, Poland, Cyprus, South Africa; 1961: Czechoslovakia, Yugoslavia; 1963: Uruguay; 1965: Bulgaria; 1966: New Zealand, Australia, Romania. (Sources: "OECD Member Countries" in OECD Observer 38:1960. International Labour Yearbook 1970, Table 2A.)

industrial countries. Figure 2 shows that the consumption of beer per capita is heaviest where agricultural workers make up only a small proportion of the total labor force.

It is customary to distinguish between countries favoring beer, wine, or spirits. Often, conclusions concerning the typical drinking patterns in these different "alcohol cultures" are made (5a). The above remarks on the relationship between production of these different beverage types and their consumption encourage us to take a closer look at these cultural differences.

As we proceed in this task, the primary interest will be in the relation between drinking patterns and the overall level of alcohol consumption. It is hoped that the possibly divergent drinking patterns prevalent in these cultural constellations will reveal something of the use values of alcohol, i.e., the kinds of needs that alcoholic beverages are used to satisfy. As emphasized in Section 1, this is by no means equivalent, although highly relevant, to explaining adequately the quantitative differences in the

consumption level. The point is, rather, to see if there is, in fact, a correlation between the consumption level, beverage preferences, and the typical drinking patterns; and whether the classification of countries on the basis of beverage preferences is justified from this point of view.

Since we are interested in traditional drinking habits, we are concerned here with historical trends. For the purposes of systematic analysis, this is of course problematic. We have to choose a certain point in time in which the possible traditions are to be seen as existent and observable. This is, to a certain extent, arbitrary, but the fact remains that as far as the use of alcohol is concerned, the period following World War II seems to mark a turning point in industrial countries, suitable to our purpose. As was observed in Section 1, it is during this period that the rising trends in alcohol consumption become established. Therefore we take the early 1950s as the base period and later analyze the trends from this period on.

Let us, first, attempt to carry out the classification of countries on the basis of the most favored beverages. This is given in Table 4, in which all countries for which the relevant information is available are grouped according to the percentages contributed to the total consumption of 100% alcohol by each beverage class. In the majority of cases, the classification can be done unambiguously. In some others (Luxembourg, Cyprus, German Democratic Republic) it was necessary to fall back on data relating to different periods to place the countries in the "right" categories, because the distribution of alcohol between the beverage classes was balanced between two competing beverages. Borderline cases are, moreover, Austria and Switzerland, where consumption in the early 1950s was distributed fairly evenly between all the beverage classes. With so few borderline cases, the classification seems to work rather well.

Also, the differences in the consumption level between these groups are strikingly obvious. In wine countries the total consumption of alcohol per capita is clearly the highest—it ranged from Switzerland's 7 liters to France's nearly 18 liters—unless one takes into account Rumania and Hungary, where, according to rather uncertain information, the figure was less than 5 liters.

In beer countries, the level of consumption varied closely between 3.5 and 6.5 liters. The sole exception was the German Democratic Republic, where it was under 2 liters.

Clearly, the lowest level of total consumption was measured in the spirits countries, where it was consistently at a maximum of about 2 liters. Exceptions were Sweden, with 4 liters. Poland, with 3 liters, and Yugoslavia, for which the 1955 figure was 2.7 liters.

Such distinct and consistent differences in the level of total consumption indicate that the classification of countries into traditional wine-, beer-, and

TABLE 4 BEVERAGE PREFERENCES AND TOTAL ALCOHOL CONSUMPTION PER CAPITA IN SELECTED COUNTRIES 1950-1952<sup>a</sup>

Countries	Percent of Total Alcohol Consumption			Total Consumption Per Capita
	Wine	Beer	Spirits	
Wine countries				
France	79.1	5.1	15.8	17.6
Hungary	78.5	6.0	15.5	4.8
Italy	90.8	1.7	7.5	9.4
Portugal <sup>b</sup>	95.8	0.4	3.8	12.9
Rumania <sup>b</sup>	60.8	6.0	33.2	4.7
Spain <sup>b</sup>	69.8	1.8	28.4	8.1
Switzerland <sup>b</sup>	51.7	29.6	18.6	6.6
Beer countries				
Australia <sup>b</sup>	13.4	73.8	12.7	6.4
Austria	32.7	43.5	23.8	5.4
Belgium	11.0	78.4	10.6	6.6
Canada	4.0	61.7	34.3	4.9
Czechoslovakia <sup>b</sup>	10.3	63.1	26.6	4.9
Denmark	9.8	78.3	11.9	4.0
Germany Fed. Rep.	20.0	50.2	29.8	3.6
Ireland	3.5	75.0	21.5	3.4
Luxembourg	42.8	43.1	14.1	6.8
New Zealand <sup>b</sup>	4.2	75.3	20.5	5.6
United Kingdom	2.1	87.1	10.8	4.9
U.S.A.	9.8	51.7	38.5	5.0
Spirits countries				
Bulgaria <sup>b</sup>	27.4	13.4	59.2	1.1
Cuba <sup>b</sup>	12.2	34.6	53.2	2.0
Cyprus <sup>b</sup>	43.7	13.0	43.3	3.1
Finland	6.6	33.9	59.5	2.2
Germany Dem. Rep.	3.6	47.0	49.5	1.9
Iceland <sup>b</sup>	15.9	37.9	46.1	1.1
Israel <sup>b</sup>	16.4	25.3	58.3	1.4
Netherlands	3.8	28.2	68.1	1.9
Norway	7.2	41.6	51.2	2.1
Peru <sup>b</sup>	10.2	24.0	65.8	1.3
Poland	4.6	24.2	71.2	3.1
South Africa	29.7	21.4	48.9	1.8
Sweden	4.5	31.8	63.7	4.0
Turkey <sup>b</sup>	27.5	17.3	55.2	0.3
Yugoslavia <sup>b</sup>	18.9	8.2	72.9	2.7

<sup>a</sup> Annual average.

<sup>b</sup> Figures are based on estimates for 1950 as shown in Appendix 1.

<sup>d</sup> Total Consumption per Capita given in Liters of 100% alcohol, per year.



spirits-drinking cultures is not merely a formal convention but actually has a substantial content from the standpoint of drinking patterns. The high consumption level prevailing in wine-drinking countries can be presumably related to the fact that wine is a relatively inexpensive nutriment and is used daily as a normal beverage with meals. It has been noted already in the foregoing (Section 2) that Italians at the beginning of the decade of the 1950s drank about 80% of all their alcohol in connection with meals (32). The French often take drinks also between meals (52).

On the other hand, in "hard-liquor countries", drinking alcohol with meals has not been very common, at least, it was not at the time following World War II. Kuusi's findings (23) indicate that in the rural districts of Finland, spirituous liquors were drunk invariably apart from meals (and meals eaten invariably without alcoholic beverages). Likewise in the Netherlands, which ranks clearly as a country leaning toward distilled liquors rather than wine or beer and with a low consumption level, alcohol is not ordinarily a concomitant of food. Of Gadourek's sample (18) representing the Dutch population, only 2% reported drinking some alcoholic beverage with meals.

The relatively high consumption level of beer-drinking nations is not based so much on the fact that beer is an everyday mealtime beverage but that its ingestion is connected with daily social contacts and, ordinarily, with conviviality outside the home—in pubs, taverns, and restaurants (37). In *Mass Observation's* excellent description of life in English pubs in the days before the war, it is noted that "the material . . . brought forward indicates that the pub is mainly sought as a social rather than an alcoholic environment. But it is a form of social environment that is only possible plus alcohol. And therefore a whole range of the social life of the ordinary pub-goer (who is one of the main sorts of 'ordinary man') is bound up with the idea of drink. The social and alcoholic aspects of pub-going cannot really be separated." Food, however, is not served—and seldom, if ever, eaten—in pubs (50).

The relation of alcohol to the taking of meals thus appears to be an essential feature distinguishing the drinking patterns of beer-, spirits- and wine-drinking nations. In wine countries, such a major part of the consumption of alcohol is connected with eating that it can be regarded as a natural component of a meal, and wine can, with good reason, be called a nutriment. In countries characterized by the consumption of beer and particularly spirituous liquors, the use of alcohol is confined to leisure time, and it has primarily other than nutritional use values, even if it is taken in the context of meals as appetizer or to highlight the meal as a social occasion.

In the light of the statistics so far set forth we can draw other conclusions too, about the prevailing differences in drinking patterns among these three

traditional alcohol cultures. Comparing the liquid volumes, in liters, of the alcohol consumed in the respective countries, we might be able to make certain judgments about the prevalence on various levels of alcohol consumption. If, for example, 4 liters of alcohol a year per capita is consumed in some beer-drinking country and the alcoholic content of beer is estimated at an average of 4% by volume, we arrive at—if all alcohol is taken in the form of beer—100 liters of liquid per capita, which is by no means an uncommon quantity. This amounts to nearly a third of a liter of beer a day; and if children, the sick, and the elderly are taken into account as nondrinkers, well over a half a liter of beer a day is left for the potential consumers.

The same sort of estimates as to the drinking conditions prevailing in wine countries can be made. On this basis, we are obliged to conclude that a very high proportion of the population must join in the ingestion of liquor in the form and quantities statistically shown, no matter how skew and concentrated the distribution of consumption might be.

With respect to the nations favoring spirituous liquors, the situation is different. In Finland, for example, during the early 1950s, the amounts of alcoholic drinks consumed were: about 25 liters of beer, 0.5 liter of wine, and 3 liters of spirits, or together roughly 28 liters of liquor a year, which corresponded to slightly more than 2 liters of alcohol a person. Assuming that the consumption was concentrated to the extent that, for example, the heaviest drinking tenth of the population consumed one-half of the total amount, we arrive at the estimate that the share of the rest was on the average slightly over 1 liter of pure alcohol per person. Assuming, further, that the beverage preferences with respect to the three categories of beverages we are using are independent of whether any given consumer belonged to the 10% class of heavy consumers or not, the "normal drinker's" average quota of liquor yearly was about 15 liters, of which about 12 liters was beer and the rest spirituous liquors.

The purpose of this estimation is merely to show that, if Finnish drunkards did not have very much thirst quencher (of the legal kind, at least) 25 years ago, the rest of the Finns had to consider even more carefully how to make use of their meager liquor purchases. Per capita, only a liter of beer a month fits into these amounts, and the acquisition of a bottle of hard liquor was an even rarer incident. If, on the other hand, the whole quantity of alcohol were to be consumed in the form of, let us say, beer, the quota of the normal consumer would come to more than 25 liters of this beverage per annum—in other words, he would drink a liter of beer on the average every other week.

The assumption on which the estimation is based about the concentration of consumption is altogether realistic. Mäkelä, for instance, has observed

that in 1968 10% of the adult Finnish males drank 53% of all the alcohol consumed by members of their sex, while 10% of the women drank as much as 72% of all the alcohol consumed by the female population (33). Actually, the distribution of consumption may be even more concentrated than indicated in the situation involved in our example. On the basis of a reanalysis of survey material concerning a number of different countries, Skog (9, 56) has observed that the concentration of consumption is all the greater, the lower the average level of consumption. A phenomenon like this seems intuitively natural, considering that the consumption of alcoholics has presumably a tendency to exceed, rather than fall short of 10 liters, although, to be sure, there occurs conspicuous variation according to the general level of consumption prevailing in a society (1, 8). It is reasonable to suppose that heavy consumers must stay above some minimum level to enable them as a rule to obtain the satisfaction and the pleasure they seek through the ingestion of alcohol.

Skog's finding is interesting from the standpoint of the argument set forth here in itself (56). If the concentration of alcohol consumption is, indeed, great in countries with a low consumption level, this sharpens the edge of the result arrived at by hypothetical calculations, as noted in the foregoing. The disparity between regular drinkers and "normal" consumers becomes conspicuous, for the latter presumably take enough to get drunk only on extremely rare occasions. The populations of spirits-drinking countries can therefore be expected to be polarized in two fairly distinct groups: regular users (a small minority) and abstainers or infrequent users (the great majority). The use of alcohol among the majority of the people is exceedingly rare—and all the rarer (*a*) the lower the average level of consumption is, (*b*) the higher the proportion of alcohol drunk in the form of spirits, and (*c*) the bigger the share of the total consumption claimed by alcoholics—in other words, the more concentrated the distribution of consumption.

The view of polarization in the alcohol consumption of spirits-drinking nations is reinforced by the fact that, in many cases, they have a strong temperance movement (47). Also the proportion of teetotalers and infrequent users represented in the population is generally higher in spirits-drinking than beer- and wine-drinking countries, as Table 5 shows clearly.

Although the figures given in the table are not mutually comparable, it can nevertheless be perceived, considering the effect of the research designs and methods, that in beer and wine countries there are usually fewer total abstainers than in countries favoring spirits.

In studying the table, one should bear in mind that the age, place of residence, and sex of the persons included in the sample influence the proportion of abstainers to a noticeable degree. Furthermore, it is important to pay attention to the definitions of temperance and infrequent consumption.

TABLE 5 PERCENTAGE OF ABSTAINERS AND INFREQUENT DRINKERS IN SELECTED POPULATIONS

Country	Population	Abstainers		Infrequent drinkers		Year	Reference
		Per- cent	Definition	Per- cent	Definition		
England	General population over 16 years	32	Does not drink	—	—	1948	51a
	General population over 20 years	24	Abstainer	—	—	?	48a
Canada	Men	36		—	—		
	Women	30	Abstainer	—	—	?	48a
U.S.A.	General population over 20 years	54		—	—		
	Men	32	Drinks less than once a year	15	Drinks at least once a year	1964-1965	10
U.S.A.	General population over 20 years	—		—	—		
	Men	23		10	but less than once a month		
France	General population over 20 years	40		18		1956	52
	Men	—		10	Has not consumed alcoholic drinks in the last 24 hr		
Italy	General population in Rome	—		44		?	32
	Men	—		6	Has not consumed alcoholic drinks for a week		
	Women	—		21			

Denmark	Men of 30-44 years in Copenhagen	2	Has not drunk for a year	—	—	1964	21
Sweden	Men of 30-44 years in Stockholm	4	Has not drunk for a year	—	—	1964	21
Finland	Men of 30-44 years in Helsinki	8	Has not drunk for a year	—	—	1964	21
Norway	Men of 30-44 years in Oslo	12	Has not drunk for a year	—	—	1964	21
Finland	General population over 20 years	14	Has never drunk or considers himself a teetotaler	—	—	1946	24
	Women	72		—	—		
Finland	General population between 15 and 59 years in 7 villages in southern Finland	20	Does not drink or has not drunk for a year	—	—	1951	23
Finland	General population between 15 and 59 years	53		—	—		
	Men	20	Does not drink or has not drunk for a year	20	Has drunk at most twice during the past year	1968	35
	Women	76		55			
Norway	General population over 17 years	25	Does not drink beer, wine, or spirits or has not drunk for a year	—	—	1956	7
	Women	37		—	—		
Norway	General population over 17 years	21	Does not drink beer, wine, or spirits or has not drunk for a year	—	—	1962	7
	Women	37		—	—		
Norway	General population over 17 years	12	Does not drink beer, wine, or spirits or has not drunk for a year	—	—	1966	7
	Men	37		—	—		
	Women	22		—	—		
Sweden	General population over 15 years	13	Does not drink	—	—	1955	6
	Men	26		—	—		
	Women	18		—	—		
Netherlands	General population 20 years and over	18	Does not drink	—	—	1958	18

The time any given survey was made is likewise important. As the level of consumption rises, the proportion of abstainers conversely decreases in the course of time.

When, for instance, age is taken into account, the observation may be made that the proportion of total abstainers is lower in England than in the United States or Canada. Although they are all clearly in the category of beer countries, and, although the average level of consumption in each is approximately the same (slightly under 5 liters), the share of beer in proportion to the total alcohol consumption is strikingly the greatest in England (nearly 90%).

The findings about adult males in the Nordic countries are mutually quite comparable, and they reveal that the proportion of abstainers is lower in Denmark than in Sweden, although the average level of consumption is roughly the same (about 4 liters in 1950 and about 5 liters in 1964). Denmark is unmistakably a beer country (the share of beer is 75% of the total alcohol consumption), and Sweden is a spirits-drinking country (63%). In the low consumption level, spirits-drinking countries of Norway and Finland (2 liters in 1950), the proportion of abstainers is the highest among the adult male residents of the respective Nordic (Finland and the other Scandinavian countries) capitals. Taking the total population, the proportion of abstainers is higher in Finland and Norway than in Sweden.

In spirits-drinking countries, the great differences in alcohol habits between regular users and infrequent users or abstainers highlights the conspicuous visibility of alcohol. Under such conditions, drinking as a general rule is always "deviant" behavior—especially when it leads to drunkenness. Finns tolerate liquor poorly—but how about the Norwegians, Poles or, for that matter, the Turks?

The visibility of drinking is intensified in countries favoring spirits by the fact that it is socially segregated there, constituting a separate activity, without its being linked to other aspects of social life in a kind of supplementary role (2, 8). This is brought out by the fact, for instance, that the catering institution in these countries is off limits to the great majority of the inhabitants. Restaurants are patronized mainly in these countries by members of the upper social classes and by heavy drinkers. Infrequent drinkers enjoy their liquor mostly at home or on special or random occasions in other places (2, 18, 21, 40, 46). In beer- and wine-drinking countries, on the other hand, restaurants attract a broader sector of the population, and drinking takes place less often in home surroundings (13, 37).

I have tried in the foregoing discussion to make the point that the classification of various nations into spirits, wine, and beer cultures is not merely a formal one, based on statistical averages. The admittedly few and crude facts that were brought up seemed to support the conventional idea that the typical drinking patterns prevailing in these countries are quite different.

Yet, I am not claiming unconditional validity for this grouping, of course. Further studies may show that drinking in context of meals is customary also in many beer countries and even in some spirits countries. Even less has it been possible to give detailed historical explanations as to why each country belongs to a certain group with its typical beverage structure, drinking patterns, and level of consumption (apart from the observations made on the relations between production and consumption of the traditional beverages). It is more important, however, that the similarities found within each group of countries have pointed to certain predominant use values of alcoholic beverages, that is, the needs which they are used to satisfy in these countries.

The wine countries are distinguished particularly by the fact that the ingestion of alcohol there is customarily done as an integral part of having a meal. Alcohol in these countries has a distinctly nutritional use value. The spirits-drinking countries can be differentiated from the others by the fact that the use of alcohol there is exceptional but, at the same time, conspicuous and segregated from other social activities; in these countries, the population is polarized into two groups, users and nonusers. The use value of alcohol in these countries is primarily that of an intoxicant. Beer countries form in this respect probably the least homogeneous group. In some, beer can only marginally be seen as food; in some others this is not so clear. Nevertheless, it seems that in these cultures beer has a distinct convivial function: it is an institution around which much of the everyday social life evolves.

It is possible and even likely that the different drinking patterns and use values are reflected in alcohol cultures of different types as typical attitudes. For instance, Pittman (47) classifies cultures according to the prevailing attitudes toward drinking into abstinent, ambivalent, permissive, and overpermissive groups. In line with such a classification the spirits countries might be characterized as abstinent or ambivalent, whereas the beer-drinking nations would be either ambivalent (England, Ireland) or permissive (Germany), and the wine-drinking nations permissive (Italy) or overpermissive (France). Or we might try to present the differences on the basis of Bales's classical typology (5). According to this classification, the attitudes toward alcohol may be wholly rejective (abstinent), or may accept it as a means of easing and livening human contacts on social occasions (convivial), or ritualistic, or exclusively aimed at releasing physical or mental pressure (utilitarian). The typical attitudes toward drinking in spirits-oriented countries could then perhaps be characterized as either abstinent or utilitarian, in beer-drinking countries as either convivial or utilitarian, and in wine-drinking countries as either convivial or utilitarian, depending on the aspect of consumption under consideration.

The problem of such classifications of attitudes, however, is that they

apply to drinking as a general category, not accounting for differences in actual drinking patterns and the related use values. These attitudinal typologies seem to imply that the use of alcohol always involves a degree of intoxication and the moral concern for it as the *sole* or at least *most* relevant aspect of drinking. As such, they are more a mapping of public attitudes towards intoxication than the use of alcoholic beverages in all its complexity. Therefore, they may not always provide good characterizations of cultures where drinking for the most part is not a moral issue.

Such classifications are therefore best applicable in the conditions within spirits countries, where alcohol usually has scarcely any other use besides its value as an intoxicant. Therefore in these countries also the use of and attitudes towards alcohol can be described as one-dimensional. In international comparisons, attitudinal characterizations may best be used as supplementary and applied only as secondary criteria in differentiating alcohol cultures.

Although I have analyzed the use values of alcohol in the context of typical drinking patterns prevailing in different alcohol cultures, it is not being said that alcohol is food in one country and intoxicant in another. Certainly it is possible to get drunk from wine in Italy as well as in any other country, even independent of its combination with or action as food. Certainly, also, the caloric content of alcohol can be assimilated in the metabolic process independently of cultural norms regulating drinking behavior. Different use values can be and are coexistent. The foregoing analysis might rather be seen as further support for the hypotheses that some use values are more important than others, depending on social and cultural conditions. In fact, I have tried to stress that in wine countries alcohol does serve nutritional needs in addition to others; and the same is true probably even to a greater extent for beer countries. In this sense these alcohol cultures could perhaps be characterized as multidimensional in contrast to spirits countries where alcohol is more distinctly a drug.

Two reservations to this analysis should be added to those presented earlier. First, the methodologic procedure is apt to arouse confusion in that use values have been derived from descriptions of typical drinking patterns. This has been done for two reasons. (a) It is very difficult to study directly the needs which alcoholic beverages satisfy, and this is particularly true in a cross-cultural comparative study. For this reason, typical drinking patterns and situations in which drinking usually takes place may give us clues to conclusions concerning the use values. Therefore, an appetizer before the dinner does not necessarily involve a need to supplement the caloric content of the food, although it would be described as drinking with or at least in the context of a meal. (b) Although my conclusions on use values are derived from the analysis of drinking patterns, it is quite possible that



changes in use values of alcohol in reality derive from changes in drinking patterns. The needs may be there as of old; but newly adopted drinking customs may induce the use of alcohol to satisfy them, thus replacing some other means of want satisfaction. However, they can also create new needs (addiction, for instance). Therefore it is useful to study drinking patterns as such.

Another problem arises with the geographic limits of the material presented over and above the consumption statistics. In this sense, the generalizations are far from conclusive. However, it is hoped that, as far as it goes, they can be used as a bench mark for closer historical studies. At least they seem to hold enough water, to the extent that the grouping of countries according to the dominant beverage type is not entirely arbitrary, and can be used in the following as a basis for investigating the developments in drinking patterns and the level of alcohol consumption since the 1950s.

#### 4. DIFFUSION OF DRINKING PATTERNS AND THE RISING LEVEL OF CONSUMPTION

An idea can be gained about the magnitude of the growth of alcohol consumption on a global level by first examining Table 6, which gives figures indicating the increase in alcohol production in Europe and throughout the world. The figures for the world as a whole and for Europe in particular suggest that the world production of beer increased between 1960 and 1968 by about 41%, that of wine about 15% and that of distilled liquors about 40%. Assuming that equally large quantities were also consumed during the years covered by the table, we arrive at the result that total alcohol consumption, when the population growth is taken into account, increased throughout the world by about 9% and in Europe about 17%.

Table 7 presents the trends in consumption, calculated on a per capita basis, from the beginning of the 1950s to the end of the 1960s in detail for individual countries. Differences between the types of countries in the rate of growth of consumption can be perceived. For beer countries, the quantitative increase in alcohol consumption was on the order of about 25 or 30% between the annual averages of 1950 to 1952 and 1968 to 1970, so that, at the end of the 1960s, it most usually amounted to between 5.5 and 8.5 liters. Beer-drinking countries with an exceptionally high consumption level at the end of that decade were the Federal Republic of Germany (with an average figure of 9.8 liters for the years 1968-1970) and Austria (10.7 liters), whereas Ireland emerged as an exceptionally temperate beer-drinking country (with a

TABLE 6 THE DEVELOPMENT OF THE PRODUCTION OF ALCOHOLIC BEVERAGES IN EUROPE AND THE WORLD AS A WHOLE

Year	Wine		Beer		Distilled Alcoholic Liquors Converted into 100% Alcohol	
	Million Hectoliters	Liters per Capita	Million Hectoliters	Liters per Capita	Million Hectoliters	Liters per capita
Whole world						
1920	164	9.1	129	7.1		
1930	158	7.8	168	8.3		
1960	247	8.3	404	13.5	20.2	0.7
1962	285	9.2	444	14.3		
1968	283	8.1	568	16.3	28.2	0.8
Europe						
1920	147	44.7	118	35.9		
1930	130	36.5	156	43.8		
1960	187	44.0	191	44.9	6.1	1.4
1962	214	49.3	210	48.4		
1968	204	44.8	269	59.1	9.3	2.0

Populations of whole world and Europe (in millions)

	1920	1930	1960	1962	1968
World	1810	2013	2982	3100	3490
Europe	329	356	425	434	455

Soviet production is not included in the production figures for Europe for technical reasons. Data on the production of distilled liquors and wine in the U.S.S.R. in 1920 and 1930 are lacking.

It has been endeavored here to report the alcoholic liquors as converted to 100% alcohol, and for this reason the figures have been multiplied by 0.80. See also Table 9.

total consumption of only 4.4 liters). In certain beer countries, to be sure, the rate of increase in consumption was noticeably higher.

With the exception of Portugal and France, which fall into the category of countries with an exceptionally high level of alcohol consumption (the figures for Portugal are fairly uncertain), the increase in total consumption in the wine-drinking countries was generally more than 40% during this period, with Hungary topping the list (77%). The consumption level of these countries is nowadays in the neighborhood of 8.5-14 liters, though in France, it is true, the level is higher.

TABLE 7 TRENDS IN TOTAL PER CAPITA ALCOHOL CONSUMPTION IN SELECTED COUNTRIES (1950-1970)

Country	Consumption in Liters per Capita of 100% Alcohol 1950-1952	Consumption per Capita of 100% Alcohol in 1968-1970 (1950-1952 = 100)	Average Annual Increase	Number of Observed Years
<b>Wine countries</b>				
France	17.6	93.0	-0.3	20
Hungary	4.8	177.0	4.2	13
Italy	9.4	148.6	2.1	20
Portugal	12.9 <sup>a</sup>	109.3	3.7	6
Rumania	4.7 <sup>a</sup>	133.8	0.1	8
Spain	8.1 <sup>a</sup>	144.4	1.8	8
Switzerland	6.6 <sup>a</sup>	151.9	2.4	8
<b>Beer countries</b>				
Australia	6.4 <sup>a</sup>	126.9	1.5	19
Austria	5.4	210.4	4.6	20
Belgium	6.6	126.0	1.5	20
Canada	4.9	133.2	1.8	20
Czechoslovakia	4.9 <sup>a</sup>	163.0	3.4	16
Denmark	4.0	168.1	3.0	20
Germany Fed. Rep.	3.6	287.0	6.5	20
Ireland	3.4	132.8	1.8	19
Luxembourg	6.8	139.5	2.5	20
New Zealand	5.6 <sup>a</sup>	126.4	1.8	17
United Kingdom	4.9	125.7	1.3	20
U.S.A.	5.0	115.5	0.9	20
<b>Spirits countries</b>				
Bulgaria	1.1 <sup>a</sup>	498.4	7.7	5
Cuba	2.0 <sup>a</sup>	89.2	-1.7	5
Cyprus	3.1 <sup>a</sup>	106.1	-1.3	5
Finland	2.2	185.6	4.3	20
Germany Dem. Rep.	1.9	396.3	9.5	20
Iceland	1.1 <sup>a</sup>	255.3	4.0	10
Israel	1.4 <sup>a</sup>	131.9	-0.4	7
Netherlands	1.9	253.1	5.3	20
Norway	2.1	160.3	2.6	20
Peru	1.3 <sup>a</sup>	208.4	5.7	9
Poland	3.1	178.4	3.0	20
South Africa	1.8	159.4	2.8	17
Sweden	4.0	143.2	2.0	20
Turkey	0.3 <sup>a</sup>	135.6	5.4	8
Yugoslavia	2.7 <sup>a</sup>	269.1	6.5	14

<sup>a</sup> Estimate. See Appendix 1.

The biggest changes occurred in the countries that, on the basis of the data for the years 1950–1952, could be classified as spirits drinking. A rise of over 100% in the average level of alcohol consumption in the 20-year period was by no means uncommon; according to certain estimates, the consumption of alcohol in Bulgaria increased fivefold. Sweden ranked second (5.7 liters), and Poland also held its place near the top (with 5.4 liters). The lowest level of consumption on the whole among the countries included in the table continued to be in Turkey (0.46 liters).

The more rapid than average rate of increase in consumption registered in the spirits-drinking countries, where the consumption level is usually very low, means that the level has risen more rapidly than the average in the countries where the level of consumption was low to begin with. This has had the effect of bringing closer together the consumption levels of the different groups of countries under consideration. This process of quantitative homogenization can be measured by, for example, a coefficient of variation. Table 8 shows that the value of the coefficient between countries diminishes systematically during the period under investigation in all the classes into which the countries have been divided.

The growth in the consumption of alcohol consumption has not taken place independently of the changes that have occurred in the structure of consumption. An overall picture of the trend of these changes is given by Table 9, in which an estimate has been made of the developments in the quantity of alcohol contained in the different classes of beverages during the 1960s on the basis of the figures representing total alcohol production in Europe and the world. Once more, it must be remarked that, on the basis of this table, only tentative observations can be made.

The most important of these observations is that wine appears to be unquestionably losing ground as a source of alcohol throughout the world,

TABLE 8 VARIATION COEFFICIENTS OF  
TOTAL PER CAPITA CONSUMPTION OF  
100% ALCOHOL BETWEEN COUNTRIES

Group	1950	1960	1965	1969
1	0.77	0.63	0.61	0.55
2	0.75	0.60	0.53	0.45
3	0.70	0.64	0.55	0.48

Group 1, all countries listed in Table 7.

Group 2, all European countries.

Group 3, capitalist European countries, U.S.A. and Canada.

TABLE 9 ALCOHOLIC CONTENT OF INTOXICATING BEVERAGES PRODUCED IN THE WORLD AS A WHOLE AND IN EUROPE 1960 AND 1968

	Alcohol in Millions of Hectoliters Contained in				Rate of Increase in the production of 100% Alcohol in Relation to Population
	Wine	Beer	Distilled Liquors	Total	
World					
1960	24.7	20.2	20.2	65.1	100
1968	28.3	28.4	28.2	84.9	109
Europe					
1960	18.7	9.6	6.1	34.4	100
1968	20.4	13.5	9.3	43.2	117

Wines are assumed to contain 10% alcohol by volume, beer 5%, and distilled liquors an average of 80%. It is difficult to estimate, however, the strength of the different alcoholic beverages reported by different countries. Hence, averages of the kind used here are more or less arbitrary. As the production of distilled liquors has been reported by a number of countries in terms of 100% alcohol, whereas other countries have reported their production in terms of the consumption strength of the beverages, the assumption has been made here that the alcohol content of the totals average approximately 80% by volume.

especially in Europe, where it still rates as the most important class of alcoholic beverages. This is happening while the total amount of alcohol increases, particularly in countries not belonging to the European group. Among these the most notable in this respect is the U.S.S.R. (not included among the European countries in the present chapter for technical reasons).

The trends reflected by these total figures are based mainly on the fact that the increase in consumption that has taken place in wine countries has generally been slower than in spirits-drinking countries (Tables 6 and 7). They indicate further that important structural changes have also occurred within the countries.

An idea of the internal structural changes can be gained best by examining the distribution of the total alcohol consumption by classes of beverages, as has been done in Table 4. In Fig. 3, these percentages have been marked on an equilateral triangle, on which the position of a point representing a country denotes the percentage of the total amount of alcohol claimed by the classes of beverages. Thus, for example, in Finland in the years 1950-1952, hard liquor accounted for 60%, beer for 34%, and wine for 6% of the alcohol consumed on the average. The arrows drawn on

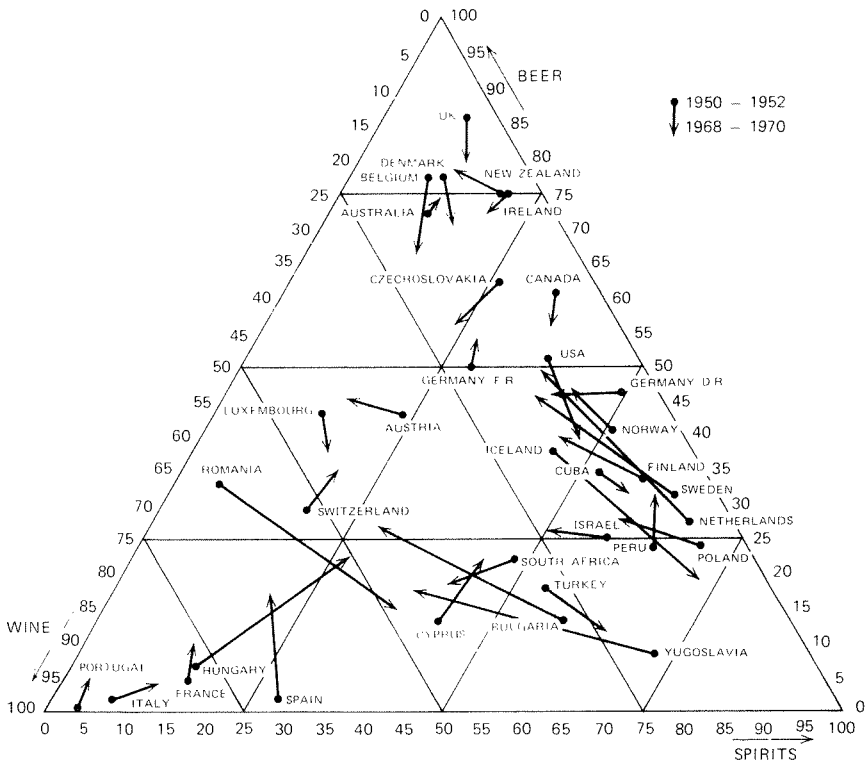


Fig. 3. Distribution of annual average alcohol consumption by beverage class in selected countries, 1968-1970 and 1950-1952.

the triangle indicate the changes in the structure of drinking from the 1950-1952 period (figure representing the average) to the 1968-1970 period (average).

The most important observation that can be made from Fig. 3 is that a general leveling process has occurred in the structure of drinking: the countries have shifted more or less straight toward the center of the triangle, which represents the distribution of alcohol evenly among all three classes of beverages.

We can measure the distance of each country from the midpoint by means of the equation

$$R = \sqrt{\sum_j \left( \frac{P_j - \frac{1}{3}}{3} \right)^2}; \quad j = 1, 2, 3 \tag{1}$$

where  $j$  = the type of beverage,  $P_j$  = the proportion of the type of beverage  $j$  of the total amount of alcohol, and  $R$  = the distance from the midpoint. The mean of this distance in the 1950–1952 period was 14.0, in 1959–1961 it was 13.0 and in 1968–1970, 11.9.

Let us assume in the manner set forth in the preceding section that the beverage structure reflects typical drinking patterns, which can be analyzed in terms of different use values. Then this triangle could be interpreted to indicate that between the 1950s and the 1970s, the drinking cultures systematically drew closer together, also qualitatively. The proportion of nontraditional beverages in the total alcohol consumption has risen.

In this respect too, the trend that has taken place in spirits-drinking countries has been the most drastic, judging by the length of the arrows (Figure 3, see also Tables 6 and 7). On the whole, the shift in these countries has taken place in the direction of an increase in the proportionate share of both beer and wine. The only exception is Peru, where the consumption of wine has also decreased.

The changes taking place in wine countries have been likewise conspicuous, mainly owing to the increase in the proportion of beer drunk. In Hungary and Rumania, also the proportion of hard liquor has risen noticeably. In beer-drinking countries, the changes have been structurally slighter on the whole; in them, the proportion of both wine and hard liquor consumed has risen.

Insofar as the assumption holds good that the beverage structure reveals something about the prevailing drinking patterns in wine-, spirits- and beer-drinking countries, the leveling out of the structure means that intercultural diffusion has taken place in drinking patterns. We shall here note a few developments that may have contributed to this trend, which can be called qualitative homogenization.

The explosive growth of foreign travel that took place during the 1960s, being directed largely from North America to Europe and from the beer- and spirits-drinking European countries (from Scandinavia, West Germany, and England) to the wine countries of the south (43), has made familiar the drinking habits and customs of the people living in the wine countries. The dominant place held in the global communications network by American films and television programs (64) increases the dissemination of the drinking culture adopted by the Americans; the cocktail hour is beginning to be a well-known custom even in Italy (31).

It is possible to point, however, to circumstances that influence the diffusion specifically of alcohol cultures. Although closer scrutiny of the matter is not feasible in this connection, it is impossible to ignore a phenomenon that, in capitalistic countries, has reached an unprecedented magnitude since World War II—namely, the concentration of economic activities. In

the alcohol industry, this has meant, among other things, the fusion of brewing companies on a large scale, which is shown as it applies to the end of the 1960s in Table 10. In three years, the number of brewing companies in the EEC and FINEFTA countries (excepting Spain) has been reduced from 2556 to 2362, or by 7.6%. During the same period, production has increased about 10% (Combined Statistics, CBMC/EBIC 1970, Table 4). Mergers have been taking place at the fastest rate in Italy, where the number of brewing companies has fallen from 31 in 1968 to 16 in 1970. One result has been a doubling of the average production of Italian brewing firms, although the production per brewery plant has risen no more than 13.5%.

As a consequence of the many mergers in the brewing industry, the markets have taken on a monopolistic character. Table 11 represents the distribution of breweries by size in the EEC and FINEFTA countries. From these figures, it can be estimated that the 54 biggest brewhouses, excepting the ones located in Belgium, the Netherlands, and the United Kingdom, produce not less than 21% of the brewage consumed in these countries. If all the required information could be obtained from these countries, it could be demonstrated that the concentration of production is even greater than the available data indicate.

The mergers that have taken place in the brewing industry and the monopolization of the brewage markets have the effect of advancing in many ways (in Europe) the international diffusion of consumption patterns. In the first place, behind the mergers is the penetration of markets by foreign capital, facilitated especially by the legislation governing the EEC organization. For example, British brewers have made substantial investments of capital in continental Europe, notably Belgium, West Germany, and the Netherlands. A major Danish corporation recently established a large brewery in England. The second largest brewhouse in the Netherlands belongs to a British concern (36). Dutch brewers have notable interests in the beer markets of Italy. In the second place, as the brewing firms grow in size, their marketing power and competitive ability in bidding for customers increase. Beer advertising in the Federal Republic of Germany, for instance, underwent an investment rise from 30.6 million D-marks in 1967 to 94.4 million D-marks in 1972 (54). Owing to the influence of foreign investments, making foreign consumption models known is an important aspect of beer advertising.

The same processes are at work also in the marketing of spirituous liquors, but the situation is complicated by the fact that the production of many of the major brands requires both distilling and maturing as well as blending combined with effective marketing. The distilling is often done by small independent producers, who sell their output to big name-brand firms



TABLE 10 THE STRUCTURE OF BEER INDUSTRY IN EEC AND FINEFTA COUNTRIES  
IN 1968 AND 1970

Countries	Number of Active Breweries (Plants)		Number of Independent Brewing Companies		Production (1000 hl) <sup>a</sup>		Average Production per Plant (1000 hl)		Average Production per Company (1000 hl)	
	1968	1970	1968	1970	1968	1970	1968	1970	1968	1970
EEC										
Germany Fed. Rep.	1,908	1,815	1,840 <sup>b</sup>	1,750 <sup>b</sup>	79,016	86,952	41.4	47.9	42.9 <sup>b</sup>	49.7 <sup>b</sup>
Belgium	251	233	225	190	11,894	13,015	47.4	55.9	52.9	68.5
France	133	114	103	87	19,192	20,255	144.3	177.7	186.3	232.8
Italy	39	38	31	16	5,388	5,959	138.2	156.8	173.8	372.4
Luxembourg	10	8	9	8	512	541	51.2	67.6	56.9	67.6
Netherlands	28	23	18	16	6,854	8,724	244.8	379.3	380.8	545.3
FINEFTA										
Austria	82	77	72	67	7,151	7,231	87.2	93.9	99.3	107.9
Denmark	27	27	25	23	6,003	7,087	222.3	262.5	240.1	308.1
Finland	14	13	10	9	1,447	2,266	103.4	174.3	144.7	251.8
Norway	20	19	17	16	1,331	1,513	66.6	79.6	78.3	94.6
Portugal	5	5	4	4	830	1,353	166.0	270.6	207.5	338.3
Sweden	51	46	23	21	3,612	4,189	70.8	91.1	157.0	199.5
Switzerland	57	56	57	54	4,475	4,754	78.5	84.9	78.5	88.0
United Kingdom	220 <sup>b</sup>	177	117 <sup>b</sup>	96	51,418	55,147	233.7 <sup>b</sup>	311.6	439.5 <sup>b</sup>	574.4
Ireland	7	7	5	5	4,778	5,040	682.6	720.0	955.6	1,008.0
Spain	—	—	—	—	—	—	—	—	—	—

<sup>a</sup> There are some minor differences in these production figures as compared to those presented in table, due to different sources.

<sup>b</sup> Uncertain or estimated.

Source: Combined Statistics CBMC/EBIC 1968 and 1970.

TABLE II DIVISION OF BREWING PLANTS BY PRODUCTION 1970 IN EEC AND FINEFTA COUNTRIES

Countries	Production in 1000 hl														Total
	0-10		10-60		60-120		120-500		500-1000		1000 and More		Plants	Output	
	Plants	Output	Plants	Output	Plants	Output	Plants	Output	Plants	Output	Plants	Output			
EEC	948	3,070	552	14,616	122	10,297	123	29,642	32 <sup>a</sup>	29,327 <sup>a</sup>	—	—	1,777 <sup>b</sup>	86,952	
Germany Fed. Rep.	—	—	—	—	—	—	—	—	—	—	—	—	233	13,015	
Belgium	24	86	26	758	13 <sup>a</sup>	1,223	38	8,527	13 <sup>a</sup>	9,659 <sup>a</sup>	—	—	114	20,255	
France	1	2	6	194	12	1,152	18	3,974	1	637	—	—	38	5,959	
Italy	—	—	5	178	2	172	1	191	—	—	—	—	8	541	
Luxembourg	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Netherlands	—	—	—	—	—	—	—	—	—	—	—	—	23	8,724	
FINEFTA	21	119	34	815	9	699	10	2,723	2	1,665	1	1,210	77	7,231	
Austria	11	—	9	—	2	—	3	—	—	—	2	—	27	7,087	
Denmark	1	4	4	183	3	283	4	1,196	1	600	—	—	13	2,266	
Finland	—	—	12	295	2	145	5	1,073	—	—	—	—	19	1,513	
Norway	—	—	—	112	—	—	1	320	1	920	—	—	5	1,353	
Portugal	2	19	25	746	11	931	7	1,538	1	955	—	—	46	4,189	
Sweden	11	65	28	759	4	319	12	2,751	1	860	—	—	56	4,754	
Switzerland	—	—	—	—	—	—	—	—	—	—	—	—	177	55,147	
United Kingdom	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Ireland	—	—	—	—	4	—	2	—	—	—	1	—	7	5,040	

<sup>a</sup> 500 and more.

<sup>b</sup> Excluding 38 breweries producing only for other account.

Source: Combined Statistics CBMC/EBIC 1970.

for the final stages of production. The size of such firms can be extremely large, like, for instance, the Distillers Co., Ltd., of Great Britain, which commands no less than 55% of the British whisky markets (3).

Another factor promoting the diffusion of cultures during the period under study has been the growth of international trade. Although what was said before (Section 4) about the relatively small significance of international trade in the world economy of alcoholic beverages—wine, and beer in particular—the quantitative growth of the global markets has, nevertheless, been noteworthy. This has signified an improvement in the availability of imported drinks. For example, the combined exports of beer increased from 1965 to 1970 by 40%. The total exports of the EEC countries increased during the same period by 33% and the exports of the FINEFTA countries about 50%. The trade in distilled beverages involving the EEC countries doubled from 1963 to 1970, while the combined exports from the FINEFTA countries rose 78%. This growth is due mostly to the expansion of the French and British export trades. Since these two countries rank among the world's biggest exporters, it is likely that the growth of trade in the world markets has been of remarkable proportions.

Table 12 gives an incomplete picture of the trends in the wine trade on world markets. This is due to the fact that Algerian wine dominates the statistical situation and because France has cut its purchases considerably after Algeria gained its independence, the growth of the total global export trade can be attributed to the substantial increase of wine shipments

TABLE 12 TOTAL EXPORTS OF ALCOHOLIC BEVERAGES IN MILLIONS OF HECTOLITERS AND AS PERCENTAGE OF TOTAL PRODUCTION FROM EEC AND FINEFTA COUNTRIES AND THE WORLD

	Wine		Beer		Spirits	
	1960	1970	1965	1970	1963	1970
Total EEC						
Million hl	5.5	10.6	3.2	4.2	1.0	2.0
Production (%)	4.4	7.0	2.9	3.3	32.0	53.4
Total FINEFTA						
Million hl	1.7	2.2	1.9	2.8	1.0	1.7
Production (%)	12.8	13.9	2.7	3.4	27.9	37.9
World						
Million hl	28.4	36.1	8.3	11.7	—	—
Production (%)	11.7	12.0	1.7	1.9	—	—

elsewhere. If Algeria is left out, total wine exports rose 50% from 1960 to 1970 and the proportion of total wine exports of total production rose from 3% in 1950 to 7.6% in 1970. The countries that increased their imports most were the U.S.S.R., the Netherlands, West Germany, England, and the United States. The countries mainly responsible for the growth of exports were Italy, France, Spain, and Hungary.

## 5. CUMULATIVE THEORY OF INCREASING ALCOHOL CONSUMPTION

In the foregoing sections, it was shown that the global growth of consumption involves two homogenizing tendencies: quantitative and qualitative. By the former is meant that total average alcohol consumption is rising faster in (spirits-drinking) countries with a low starting level, and this was shown to have resulted in decreasing variation in the consumption level between countries. By the latter is meant that the differences between beverage structures are undergoing a process in which the traditional drink preferences in the three different types of countries are losing their significance through the increased acceptance of new beverages. This I have regarded as a result of intercultural diffusion of drinking patterns. In the following, I shall consider *the interconnections* between these homogenizing tendencies, with a view of the relationship of diffusing drinking patterns and increasing consumption level.

As noted in the foregoing, for many research purposes, drinking patterns are a focal concept. It can be thought that alcohol problems are related to the culturally accepted patterns of drinking, to attitudes and, above all, social norms controlling the use of alcohol. This emphasis has often been made at the expense of the overall level of consumption. As a matter of fact, this question has been one of the central themes of American and Scandinavian alcohol sociologists since the 1940s (34). In his classical article, which has already been referred to, Robert Bales observes that "high rates of consumption do not necessarily mean high rates of alcoholism" (5). In his view, the physical, psychological, and social complications induced by alcohol depend primarily on (a) the degree to which the culture produces "inner tensions and acute needs for adjustment in its members"; (b) the degree to which the culture provides "means other than the ingestion of alcohol to release tension"; (c) the sort of attitudes toward drinking the culture produces in its members. The implication of this theoretical approach, particularly of Bales's point (c) is that in the United States (and, it might be added, the Scandinavian countries) the attitudes and norms concerning drinking do not adequately regulate consumption. This is apt to cause difficulties that can only be remedied if the society "learns" the "healthy" attitudes and norms.

Such a theory is, of course, closely related to liberal programs of alcohol policy, and the whole approach is pointedly addressed against the temperance movement and its prohibitionist leanings. A compromise ought to be made between "asceticism" and "hedonism" (39) and alcohol should be dedramatized. In his influential and programmatic book on alcohol policy, Rupert Wilkinson, for example, goes so far as to call for "detoxification" of alcohol (66) by integrating it with society. The procedures usually recommended include attitude training, the teaching of civilized drinking habits to lower social classes and young people, associating the use of alcohol with various leisure pursuits, and so on. The drinking cultures of the Italians and the Jews are often held up as ideals, which explains the lively interest of researchers in the drinking habits and customs of these national and ethnic groups.

In fact, this program implies that harmful drinking might be substituted by learning to drink in moderation. Less harmful attitudes and less ambivalent norms could develop from new drinking patterns. The possible increase in total level of consumption is of less concern. Mäkelä calls this the "substitution hypothesis" (34).

This theory is applicable mainly to the drinking habits characteristic of spirits countries. We have already observed that, in spirits-drinking countries, the use of alcohol is dramatic (visible), segregated, concentrated within a particular group of consumers and aimed one-dimensionally at intoxication. The norms applying to the use of alcohol are often ambivalent, "utilitarian" or "abstinent" (see Section 3 above). In the light of Section 4, we could then think that the cultural diffusion of drinking patterns ought to promote in these countries the more normative drinking customs and habits characteristic of beer and wine cultures.

Certain research findings support the assumption that this has actually happened. In a consumer survey made in Finland in 1968–1969 by Klaus Mäkelä, the observation was made that as a consequence of the far-going liberalization of the liquor trade in the years 1968 and 1969, the frequency of occasions on which small quantities of alcohol were consumed increased noticeably. Beer of medium strength accounted for the main part of the increase. In the next few years, the consumption of hard liquors increased at the same rate as before. From this, Mäkelä drew the following conclusion:

The liberalization of alcohol policy thus brought about, on the one hand, an increase in consumption and, on the other, created new drinking practices. But it did not moderate previously developed habits. The great increase in the number of times beer was drunk in small quantities reduced the average ingestion per time. If attention is paid only to such averages, the drinking habits would appear to have become more moderate. Any estimation of the situation based on averages would, however, be misleading, for the occasions on which heavy drinking, too, took place became more common. It thus appears that the

addition hypothesis is best applicable to representing the changes wrought by the beer reform in Finland." (34).

This controversy on alcohol policy is hard to carry over to conditions where the whole question of moderating drinking habits through the adoption of the new ones is not relevant. It nevertheless seems that also in these countries the changes in drinking habits and the consumption level have taken a course somewhat similar to that described by Mäkelä. The "addition hypothesis", according to which the adoption of new consumption practices does not lead to the rejection of old ones but only to an increase in consumption, seems to apply also to beer- and wine-drinking countries—Italy in particular.

This observation is reinforced by the fact that a leveling out in the structure of consumption is in most cases connected statistically with a rise in the level of average consumption. Operationally, this can be seen as extremely high time series correlations between the consumption level and the structure of consumption as depicted by index  $R$  (see Section 4). With few exceptions, they are negative and range from Australia's  $-0.33$  to Yugoslavia's  $-0.99$ , the absolute value being usually well above  $-0.50$  (Appendix 2). In Italy, this correlation is  $-0.82$ ; in Spain,  $-0.76$ ; in Portugal,  $-0.56$  (deficient data); in Hungary,  $-0.68$ , etc. In France, the changes in both structure and level of consumption have been slight, so that the correlation is positive and as high as  $0.90$ . As for the beer-drinking countries, it can be seen that in England, the correlation is  $-0.80$ , in Belgium  $-0.95$ , in Denmark  $-0.91$ , in the United States  $-0.65$ , and in Canada  $-0.96$ . In West Germany, the consumption structure has not leveled out, for the contribution of beer to the total consumption of alcohol has continued to increase (see Fig. 3), which renders a positive correlation ( $0.55$ ).

As a general conclusion, it may be stated that diversification of consumption habits as reflected in the beverage structure has in most instances led primarily to a rise in the consumption level. When diversification has been supported by measures of alcohol policy, the result has by no means been the substitution of old drinking habits or traditional alcoholic drinks with new ones. Nontraditional consumption has simply laid a new layer over the traditional drinking patterns.

As a matter of fact, it is interesting to take a closer look at the contribution of traditional and novel beverages to the rise in the total consumption level. This may be done by breaking down the increase in the total alcohol consumption by the type of beverage. For this purpose, Mikko Pärnänen has developed the following simple model (45).

Let  $\Delta A_i$  = the change in total consumption from the year  $0$  to the year  $i$  and  $B_{ij}$  = the amount of alcohol contained in beverage class  $j$  in the year  $i$ .

If this is so, then:

$$\begin{aligned} \Delta A_i: 100 &= \frac{A_i - A_o}{A_o} = \frac{\sum_j B_{ij} - \sum_j B_{oj}}{A_o} \\ &= \sum_j \left( \frac{B_{oi}}{A_{oj}} \cdot \frac{B_{ij} - B_{oj}}{B_{oj}} \right) = \sum_j c_j (\Delta B_{ij}). \end{aligned} \quad (2)$$

In this formula,  $c_j$  denotes the share contributed by beverage class  $j$  to the total alcohol consumption in the year  $0$  and  $\Delta B_{ij}$ , the change in the consumption of beverage class  $j$  in terms of pure alcohol. The product  $c_i (\Delta B_{ij})$  thus expresses the percentage of the increase in total consumption attributable to the increase in the beverage class  $j$ . If the consumption of other beverages had remained the same, this would be the total increase in the overall level of consumption. As can be seen from the formula, the model is completely additive, so that the additions caused by the respective classes of beverages are together equal to the increase in total consumption.

It is easy to observe from the formula that the relative increase in consumption caused by a class of beverage is directly proportional to its share of the total consumption in the base year. The consumption of the most important beverage class need increase relatively much less than that of other classes to have an effect of the same magnitude on total consumption. Therefore the biggest beverage class can (but does not have to) influence the rise in the total consumption level most at the same time as a leveling-out takes place in the beverage structure. The following sample calculation, which is close to France with respect to beverage structure, sheds light on the matter.

Let the total consumption in the year  $0$  be represented by the figure of 100 units—amounting to, for example, 10 million liters—with the consumption of wine accounting for 80 units, beer 5 units, and spirits the rest, or 15 units. If the consumption of beer increases to the year  $i$  by 100%, that of spirits by 20%, and of wine 10%, we get the following tabulation:

	Consumption in Year 0		Consumption in Year $i$		Effect on
	Million Liters	(%)	Million Liters	(%)	Total Increase (%)
Wine	80	80	88	75.9	8
Spirits	15	15	18	15.5	3
Beer	5	5	10	8.6	5
Total	100	100	116	100.0	16

In the year  $0$ , the value of  $R$  is 19.2 and in the year  $i$ , 17.5, which means that a leveling-out has occurred—this is obvious also directly from the percentages. At the same time, however, the biggest class of beverages,

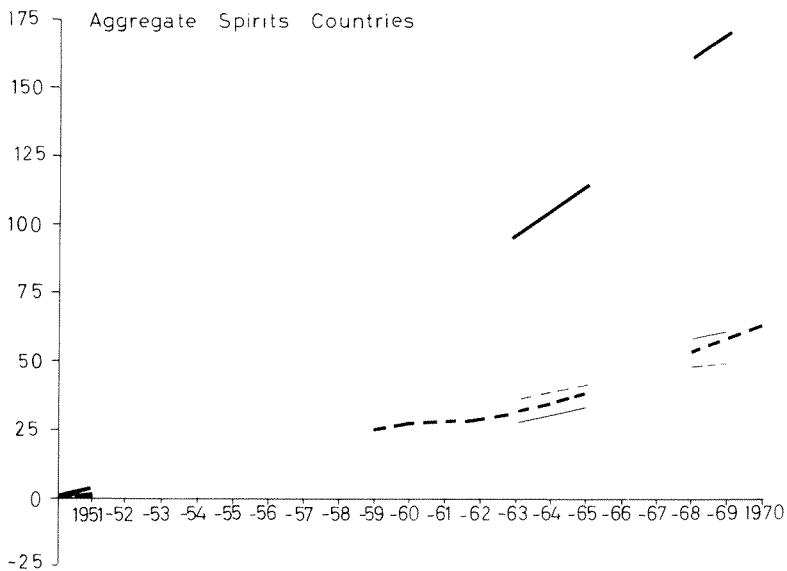
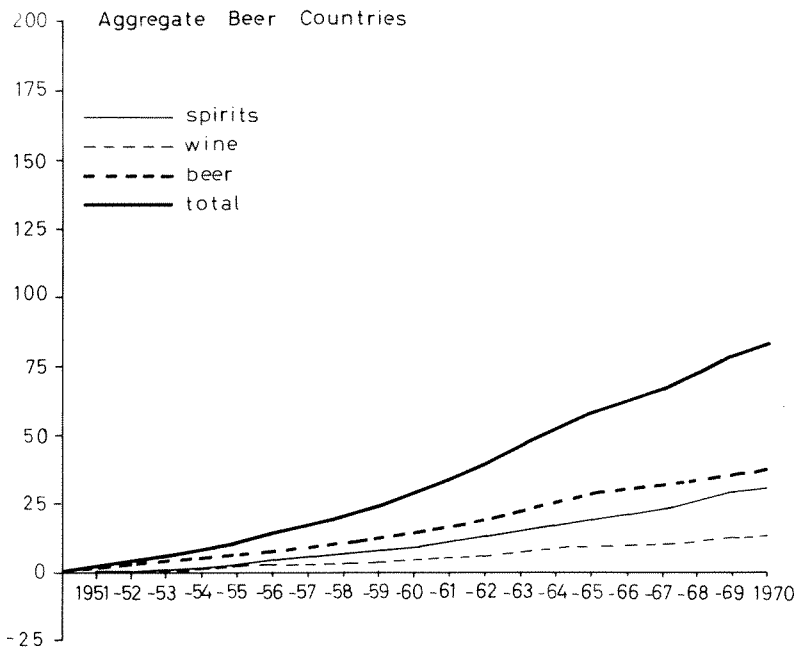


Fig. 4. Contributions of beverage types (in three-year annual averages) to total increase of alcohol consumption, 1950–1970 in aggregate wine, beer, and spirits countries.



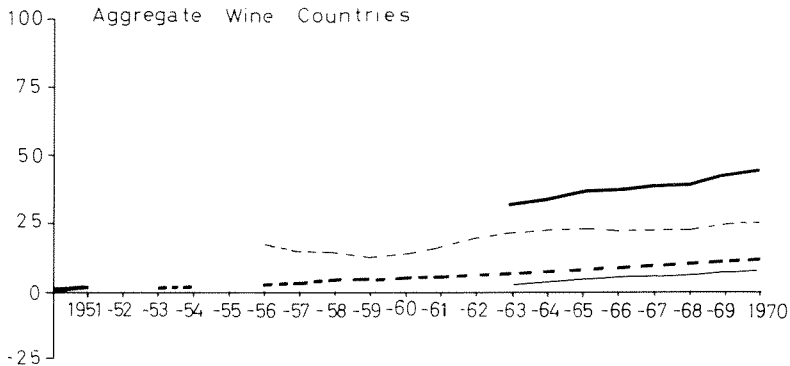


Fig. 4 (Continued)

wine, has influenced the growth of consumption by 8%, but beer only by 5% and distilled liquors by 3%.

The effects of this phenomenon can be presented graphically (Fig. 4). For the purpose of demonstration, we have calculated the combined consumption of all the wine-, beer-, and spirits-drinking countries by classes of beverages and, in this way, have formed three subtotals, which might be called, say, Aggregate Wine Country, Aggregate Beer Country, and Aggregate Spirits Country. For these "countries" the model was then calculated with three-year moving averages for the years 1950–1970, taking 1950–1951 as the base year. The curves indicate what percentage each class of drink contributed to the growth of total consumption up to 1969–1970. The years in between represent the averages for three-year periods—for instance, the figure given for 1960 represents the average value for the years 1959–1961.

The figures reveal that at the end of the 1960s, the total consumption in the Aggregate Wine Country was roughly 40%, in the Beer Country about 80%, and in the Spirits Country about 175% higher than in the year 1950. Of this growth, the share of wine was the biggest in the wine country, or about 25%. In the beer country, the increase in beer consumption caused the largest increase in the total result, or about 35%. In the spirits-drinking country, again, the biggest proportion of the total increase was accounted for by spirits, being about 65%.

Table 13 shows the distribution in detail in the increase of consumption among the classes of beverages in the different countries. This table makes it clear that, on the whole, the traditionally most popular type of drink actually induces the biggest rise in the level of average consumption. A typical case is that of Italy, where the increase in the consumption of wine has increased the level of total alcohol consumption by 51% and the

TABLE 13 DISTRIBUTION OF THE PERCENTAGE INCREASE IN  
TOTAL ALCOHOL CONSUMPTION 1969-1970/1950-1951 BY BEVERAGE  
GROUPS

Country	Beer	Wine	Spirits	Total
Wine countries				
France	6.62	5.67	-0.52	11.76
Hungary	38.74	23.05	41.00	102.79
Italy	5.38	51.39	12.70	69.47
Portugal <sup>a</sup>	4.64	23.60	0.39	28.63
Rumania <sup>a</sup>	19.90	17.06	26.21	63.17
Spain <sup>a</sup>	24.62	40.92	10.13	75.82
Switzerland <sup>a</sup>	43.33	35.50	22.12	105.73
Beer countries				
Australia <sup>a</sup>	69.87	11.15	10.98	92.00
Austria	61.56	60.10	4.76	126.42
Belgium	18.38	15.79	9.60	43.77
Canada	55.46	10.55	40.36	106.37
Czechoslovakia <sup>a</sup>	48.47	20.41	23.32	91.63
Denmark	66.18	12.23	21.81	100.22
Germany Fed. Rep.	146.65	41.54	69.63	257.81
Ireland	22.33	3.51	6.81	32.65
New Zealand <sup>a</sup>	68.76	10.91	5.42	85.09
United Kingdom	25.32	5.62	8.19	39.13
U.S.A.	11.95	8.61	35.65	56.21
Spirits countries				
Bulgaria <sup>a</sup>	177.39	246.57 <sup>b</sup>	129.13 <sup>b</sup>	507.48 <sup>b</sup>
Cuba <sup>a</sup>	9.00	-0.98	26.05	34.07
Finland	85.25	24.87	28.98	139.10
Germany Dem. Rep.	121.03	40.02	120.72	281.76
Iceland <sup>a</sup>	32.91	11.07	229.90	273.87
Israel <sup>a</sup>	45.96	43.61	90.08	179.38
Netherlands	147.81	34.66	54.79	237.26
Norway	51.75	10.81	30.60	93.16
Peru <sup>a</sup>	85.18	4.73	133.28	221.20
Poland	41.54	24.16	65.80	131.50
South Africa	32.28	74.96	69.32	176.56
Sweden	37.52	18.60	10.77	66.88
Turkey <sup>a</sup>	10.24	24.00	82.25	116.48
Yugoslavia <sup>a</sup>	57.78	134.06	62.27	254.11

<sup>a</sup> Data for 1950-1951 is estimated as shown in Appendix 1.

<sup>b</sup> 1968-1969 average.

increase in beer and spirits consumption by only 18%, a total increase of 69%. (Note that in this calculation, we have not used consumption figures per capita as, for example, in Table 7. Therefore the percentages showing the increase are somewhat higher here, owing to population growth.) Among the beer-drinking countries, let us take England as our example. The total rise there has been 39%, the share of beer being 25%. The most exceptions from the rule occur in the spirits-drinking countries, where the rise in the level of total consumption has usually been quite steep and where also the structural changes have been the most conspicuous (Fig. 3).

Mäkelä's (34) "addition hypothesis" receives general support from these calculations. Nor has the adoption of new consumption habits in the beer- and wine-drinking countries been able to replace old habits. On the contrary, expressly in these countries, the traditional type of drink has lifted the consumption level most at the same time that the structure of consumption has become more nearly uniform. Also in the spirits-drinking countries, the consumption of hard liquor has caused a steep rise in the level of total consumption, although, on account of the very steepness in the rise of the consumption level and the sharpness of the change in structure, the increase in the consumption of beer in particular has, in many cases, had the biggest effect on the total consumption.

In the light of these empirical observations, therefore, there appear to be no grounds for any kind of substitution hypothesis. Rather, the development that has taken place resembles a cumulative process, in which new elements are piled up on top of old ones, forming new strata over the total constellation of drinking habits and customs and reinforcing the old traditions in the bargain. The strata of drinking patterns lying underneath absorb ingredients from the new ones without being undermined—at most, they might undergo a change in character. In this light, one would be tempted to see the nontraditional drinking patterns as complementary, rather than supplementary, to the traditional ones.

This is all very understandable if we keep in mind the differences in content that we analyzed in the various drinking cultures. There is no reason for supposing that the use of wine at mealtime would be cut down in wine-drinking countries because at house parties and in restaurants, as well as on quiet evenings spent at home, perhaps, it is becoming gradually customary to take drinks of beer or hard liquor in smaller or larger quantities.

Likewise in spirits-drinking and, in particular, beer countries, wine has become to some extent even a commonplace mealtime beverage (51). This does not, however, necessarily mean that the pub has lost its charm as a place to while away leisure hours, but, on the contrary, by bringing alcohol into the family circle it has the effect of diminishing the distance separating women and young people from drinking in general. Perhaps the extension of this practice into the home has a particularly great significance in spirits-

drinking countries, where a large part of the population has traditionally remained quite out of touch with the use of alcohol or come into contact with it only in meeting inebriated people. On the other hand, the penetration of alcohol into normal social life in all kinds of situations opens up to heavy drinkers opportunities for socially acceptable imbibing, in addition to the fact that it can still be done within the protective confines of a restaurant.

The theory of cumulative growth has an important point of contact with the discussion on the so-called distribution theory, which in alcohol-political studies constitutes a direct antithesis to the views based on the substitution hypothesis. The distribution-theoretical approach is based on the empirical fact that the distribution of alcohol consumption is generally skew and so concentrated that a small part of the consuming public drinks the biggest part of the alcohol consumed by the population as a whole, regardless of the average level of consumption (56). Efforts have been made to explain this on the basis of the general assumption that the distribution of consumption adheres to some theoretical type of distribution, as if governed by a natural law, for example, like the log-normal so-called Ledermann distribution (26, 27, 56). To the extent that these generalizations are reliable, they are very valuable in explaining the fact that cirrhosis mortality has a high correlation with the average level of consumption whether considered in a time series or by comparing populations (countries) (9, 48, 55). This is because, insofar as the skew distribution of consumption can be represented by some one-parametric model, it is possible to estimate the number of people who consume more than a given amount, one that fundamentally adds to the health risk, simply on the basis of the average level of consumption in the population. Thus the prognosticative value of the consumption level with respect to the prevalence of alcohol-related problems is understandably high. Good results have been achieved in, for example, estimating the number of alcoholics by the use of the Ledermann model (48, 55).

An essential feature of the theories based on the skewness of the distribution of consumption is connected with the fact that in them the average level of consumption and the consumption level and number of heavy drinkers can be linked together mathematically. Since the average quantity is naturally also affected by every "normal consumer," this means that the number of heavy drinkers and the level of consumption are connected with the total consumption.

Not much has so far been done to explain this matter besides the

general implication in the writings around the log-normal distribution in the alcohol field that there seems to be some kind of contagion effect. The more the randomly chosen individual consumes, the more the alcoholic consumes (and the larger the number of alcoholics—PS). Some cultures are supposed to have a 'wet' climate and others a 'dry' one and so on. We should then need a derivation of the log-normal distribution based on the contagion effect. (15).

Already Ledermann (27) has pointed to the possibility of explaining the regularity of the distribution of consumption in this way. Quite recently others also have paid attention to the contagion effect (9).

Dynamic conclusions are often drawn out of the theory of distribution, even though the empirical data on which it is founded are largely static. In only a few studies has information been obtained about changes in the form of the distribution accompanying a rise in the level of consumption. The cumulative growth process of alcohol consumption appears therefore to afford in an important way further dynamic support for the basic assumptions of the theory of distribution by offering an explanation of sorts for the "contagion effect" (applicable, it is true, only to the conditions of increasing consumption). As we were able to note in the foregoing discussion, the adoption of new models of consumption not only had no negative influence on traditional consumption but, in many instances, the traditional consumption itself has, in this process, affected the growth of consumption most. By adding to the number of social situations in which the use of alcohol is proper or permissible, the adoption of new consumption practices increases, above all, the chances of exposure to drink. It is therefore understandable that the moderate drinkers, forming the great majority, exercise an influence over the drinking behavior of heavy drinkers. Since every heavy drinker, for his part, usually has a manifold effect on total consumption in comparison with moderate drinkers, this process leads to a cumulative rise in the average level of alcohol consumption with all the greater effectiveness.

## 6. EMERGING DIMENSIONS OF DRINKING

The two processes connected with the rise of the level of alcohol consumption, the diffusion of drinking cultures, and the associated cumulative increase in consumption, cannot exist apart from changes in the use values of alcohol. Customs and habits are unlikely to be passed on from one culture to another without modification. They must become adapted to prevailing conditions and, correspondingly, they also influence old traditions by placing them into a new position and context. The Finns have not altogether assimilated the Italian custom of taking alcohol daily with meals, although the Finnish level of alcohol consumption is rapidly approaching that which prevailed in Italy a couple of decades ago. In Finland, the drinking of wine is always essentially an intoxicating experience, whether taken in the context of a meal or not. In other words, the trend is not towards "dry" alcohol but towards "wet" dinners.

This gives us grounds for going back to the concepts we have been applying and their position in the analysis of the changes taking place in drinking

patterns and the level of consumption. The most important thing to note is that the attribute "traditional" is always relative and variable in content. It can be of value only if we are able to characterize traditions as historically determined and meaningful, as we have tried to do in the foregoing with respect to typical drinking patterns and use values of alcohol prevailing in wine-, beer-, and spirits-drinking countries. But when these typical phenomena blend into each other in the way we have described, we can no longer rest content with representing developments on the basis of these same concepts. On the contrary, it seems necessary to deal with new, evolving "traditions" and qualitatively new drinking practices characterizing them.

The shortcomings of the research material from the standpoint of analyzing new, emerging drinking patterns and use values are even greater than we could observe in a static analysis. This is due simply to the fact that the depiction of emerging drinking patterns requires dynamic data that are hard to acquire; in this, static international comparisons as such will not suffice. What we really need are the same sort of qualitative comparisons between internal changes undergone by cultures as were carried out quantitatively in the foregoing material.

Information of this kind is not actually available directly at all. The closest approach to an analysis of changes in consumption habits is made by market research, the chief task of which is to predict the market behavior of consumers, their taste preferences and susceptibility to advertising. Thereby we can reach some tentative conclusions—maybe of somewhat general validity—about changes taking place in three interesting countries, France, West Germany, and the United States.

All three countries tend both to prove in their own way the general rule emerging from the foregoing discussion and to constitute an exception to it. The level of consumption in France has not significantly risen during the past couple of decades, but the structure of consumption has become more uniform. In the United States, the level of consumption has risen and the structure of consumption has become somewhat more uniform, but beer, which we regard as the traditionally principal type of beverage there, has not affected the total increase in consumption very substantially. (About the spirits-consuming countries, to which the corresponding observation applies, we have spoken in the foregoing). And in West Germany, to the contrary, the traditionally principal type of drink has affected the rise in the level of consumption to the extent that the structure of the beverages consumed has not become more uniform but rather has taken on an increasingly heavy slant in favor of beer.

As, first of all, for the fact that the tendencies we have described are not everywhere uniform, it must be pointed out that there are many possible reasons for this. Among them, of course, is the possibility that we have seen

regularities in phenomena where none exist, or then that we have formulated our observations erroneously. One *less* worrisome group of factors that tends to confound things, when the statistical unit is a state, consists of the internal geographical and cultural variations. In West Germany at present, this has presumably a very strong influence, particularly on the consumption of wine, which is concentrated in the wine-growing areas. The beer tradition in Germany is mainly upheld in the southern regions, which are Catholic by religion and the social conditions of which deviate otherwise too from those prevailing in the north. The German beer industry is, as is well known, the least concentrated in Europe (Table 10), and the many small breweries in rural districts can to a large extent be compared to the small family plantations in winegrowing countries. The increase in the consumption of beer involves primarily the products of vigorously expanding large enterprises; the rate of increase is the most rapid in the north, and young people are making a decisive contribution to this development (41). Alcohol is mainly used after working hours and "on social occasions" (45% of the respondents included in a representative sampling of the population at large) and while watching television (12%). Only 2% reported drinking because alcohol was supposed to be "healthful" and 6% to quench thirst.

With respect to Germany, we can observe the influence of two kinds of trends. On the one hand, the internal development of the country seems to correspond to the general diffusion tendencies that we have described already on the international level; on the other, drinking seems to be connected unmistakably with leisure-time recreational activities and as a counterbalance to work.

In France, geographical differences are, perhaps, of less consequence, though in the northern regions the drinking habits are less restrained and more cider and hard liquor are drunk than in the south. On the other hand, it is interesting from the standpoint of stability in the level of consumption to look into the evolution that has taken place inside the wine group. Figure 5 shows that the slight increase in the total consumption of alcohol is due mainly to a drop in the popularity of cider and the fact that the consumption of ordinary table wines (*vins courants*) has remained very close to the 1950 level, whereas that of dessert wines (VDN), champagne, and AOC wines has risen, even to a notable extent. Here, too, an exception in one respect thus seems to confirm the rule in another; within the wine group, a structural change is taking place in favor of more expensive luxury and prestige wines enjoyed in recreative hours.

In the United States, as in West Germany, geographic differences have to be taken into consideration. In the winegrowing region of California, the drinking of wine is considerably commoner than elsewhere in the country; and the drinking habits along the urbanized Eastern seaboard deviate from the beer-dominated consumption structure of the rural Middle West. Ethnic

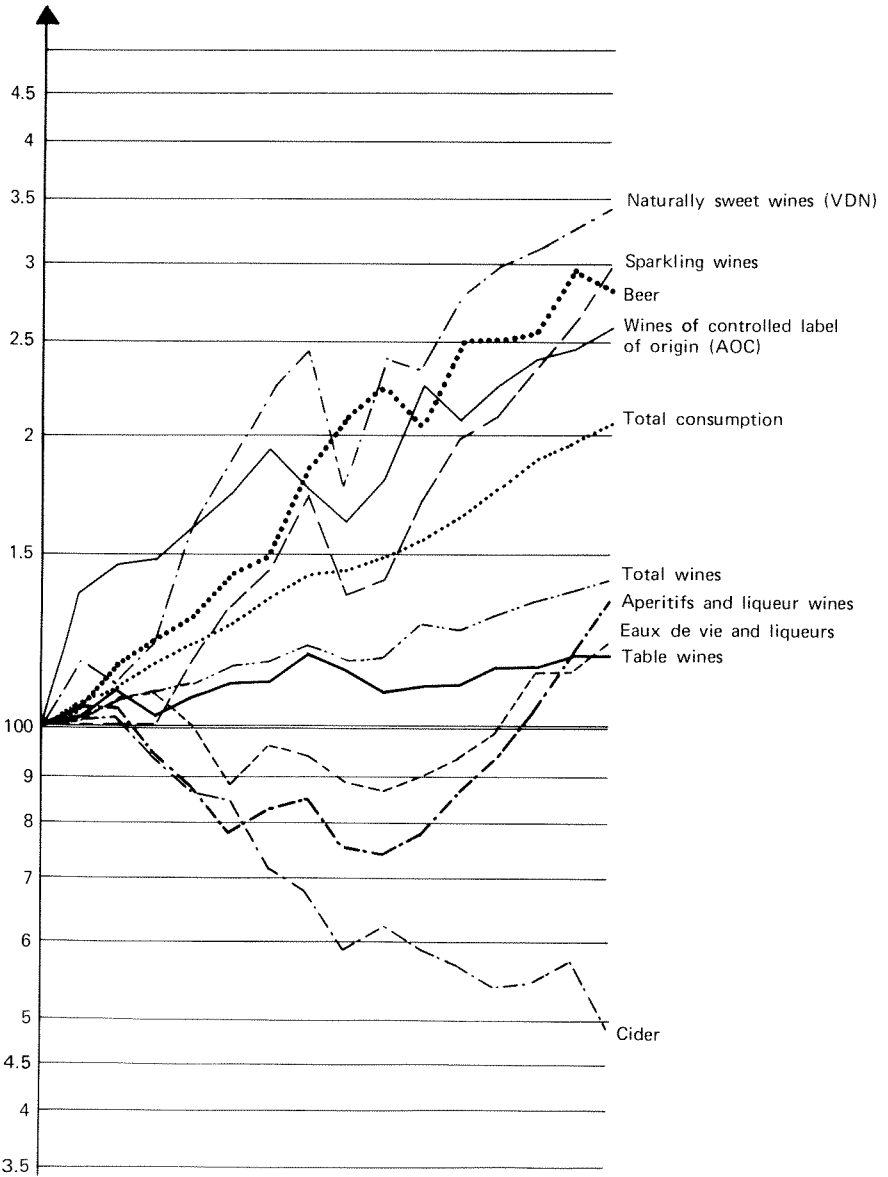


Fig. 5. Consumption of alcoholic beverages and total private consumption of households in France 1950-1965 (14).



and national factors in the United States further confuse ideas about a "traditional" drinking culture. At any rate, beer surged to the forefront following the repeal of the Volstead Act; after Prohibition, beer accounted for over half the total alcohol consumption in the country. Since then, the share of hard liquors has steadily increased at the expense of beer, and in the mid-1960s they rose to the top of the list of alcoholic beverages consumed. The share of wine has remained, for the whole time, around 10%, though, to be sure, it has shown signs of moving upward in recent years. In the United States too, therefore, the trend of consumption has been unmistakably in a direction marked by a leisure-time emphasis. Above all, young people have been adopting new habits of consumption (38).

Let us try to see what general conclusions concerning the emerging drinking habits and the related use values of alcohol might arise from our discussions so far.

The first thing to be said is that the differences between drinking cultures as characterized by beverage structures and drinking patterns seem to be—if not disappearing—at least losing ground. Here the question arises: which drinking patterns have gained favor and under what conditions, and what needs have the alcoholic beverages come to satisfy in this process?

To some extent, of course, the outcome could be described in terms of increasing "plurality" in drinking habits. But this is probably not all. From the above accounts, it seems that drinking in spirits countries has lost a degree of social isolation and instead impregnated wide segments of everyday life. Above all, it has meant the emergence of new consumer groups, particularly women and youth. At the same time, there have come to be very few situations in which alcohol is unthinkable; instead it is often a matter of course. There is no denying of the importance of the intoxicating value of drinking in these new situations and among these new consumer groups, whether played down or more prominently emphasized.

On the other hand, it is hard to see that the nutritional value of alcohol could be increasing, at least in the industrialized world. In most countries (with the important exceptions of wine in certain "wine economies") the prices of alcoholic beverages are kept relatively high by special taxation, and this fact alone makes alcohol an unsuitable supplement of the caloric content of food. With increasing incomes this is not economically out of the question, of course. But even if drinking with meals may have become more and more customary, it can be thought that usually other elements are involved than the nutritional value of alcohol: the believed digestive effects, appetizing qualities, symbols of celebration, and so on, including the pleasurable experience of intoxication.

In countries where alcohol traditionally is a food, the diversification of drinking patterns most clearly seems to be a development toward using alcohol for purposes other than nutrition. The increasing use of foreign type

and expensive high quality beverages is rather involved in celebrations, recreational settings, and other leisure activities. It is likely that the intoxicating effects of alcohol are emphasized, at least to some extent, at the expense of nutritional ones.

So it seems that, with the intercultural diffusion of drinking patterns also, the use values of alcohol take on a broader range and they become less clearly demarcated; it is increasingly more difficult to differentiate drinking for intoxication from drinking for nourishment or from drinking as an element of recreation and conviviality. However, one is likely to get the impression that the use values of alcohol typical of beer and spirits countries play at least as dominant a role in the total constellations of emerging drinking patterns as does the drinking habits of the traditional wine cultures. In this sense, also, the substitution hypothesis developed in the course of debates on alcohol policies in some spirits countries appears to be untenable. Cumulative growth of alcohol consumption is immanently characterized by a greater or lesser emphasis on intoxication.

In the light of the theoretical considerations presented earlier in this chapter, it is not difficult to see how these kinds of new features in the use values of alcohol may come into existence. Alcohol, with its intoxicating qualities, is a ready means of recreation as such. According to Partanen (46a) for example, intoxication could be called a pseudoactivity. It is exempt from the tension between goals and their achievement, yet it enhances the feeling of activity, potency, and liveliness. Compared to many other forms of recreation, alcohol has a number of advantages. It is relatively inexpensive, it suits almost everybody, it is easily transported, and it can be combined with other kinds of recreation and leisure activities (television, sports, theater, music, dancing, etc.).

As a recreational practice, drinking could be seen, then, as replacing other similar activities. But even more important, it may have come to fill the increasing leisure hours and the accompanying proliferation of recreational needs. In this sense, alcohol might with increasing justification be called, following Edwards (12a), a recreational drug, a term often also applied to marijuana (19).

## 7. SUMMARY AND CONCLUSIONS

In the foregoing sections, I have made the following empirical observations about the trends in the level of alcohol consumption and in the beverage structure. (a) A rise in the consumption level is a global phenomenon insofar as it can be judged in the light of available statistical data. (b) The rise has been steepest in countries where the level of consumption was low to begin with and particularly in those countries where hard liquor has

accounted for a high proportion of the total consumption of alcohol. (c) Differing rates of growth in consumption have brought the consumption levels closer together (quantitative homogenization). (d) A tendency toward uniformity has taken place in the structure of consumption in the sense that spirits-, beer-, and wine-drinking nations are beginning to resemble each other more and more in their typical consumption behavior (qualitative homogenization). (e) The qualitative homogenization of drinking patterns has resulted from the adoption of new consumption habits—not at the expense of but in addition to traditional habits. (f) In many cases, especially in wine and beer countries, the increase in the consumption of traditional types of beverages has had the greatest effect on the level of total consumption.

I have interpreted these statistical observations on the basis of the concepts use value and drinking patterns in such a way that the countries have been divided according to the structure of the beverages consumed into three groups representing different alcohol cultures—wine countries, beer countries, and spirits-consuming countries. Between them I found differences with respect to typical drinking patterns and use values. Changes taking place in the structure of consumption have signified, however, a diffusion of different drinking cultures. An important finding was the cumulative nature of the diversification of drinking patterns, by which is meant that new habits of consumption do not replace old ones but are complementary to them and even produce a so-called contagion effect, which stimulates the growth of traditional consumption too. The cultural diffusion of drinking patterns has led to a blending of use values to the extent of a qualitative change. In the present decade, it is increasingly difficult to distinguish the nutritional use of alcohol from its value as an intoxicant. Alcohol has become integrated with nearly all leisure activities, besides which it has an independent significance in giving pleasure on its own power. Its character might be described to be increasingly a recreational drug.

Many of the foregoing statements have a hypothetical character insofar as they are for the most part based only on data capable of systematic international comparisons. More detailed studies of the different national circumstances will probably supplement these propositions. A major implication of the conclusions drawn is that, in such studies, drinking can be profitably seen as part of general consumer behavior, reflecting the needs of the population and the means of satisfying these needs by alcohol use. This perspective is sensitive to the general social developments that may have a bearing on the need for drugs as a means of recreation and entertainment: working conditions, housing, opportunities for outdoor activities, competition for better living conditions, and so on. This aspect of drinking habits could also provide a useful link in historical causal explanations of

the changes in the level of alcohol consumption by means of factors that contribute to the increasing facilities for satisfying various needs, such as consumption power, increasing leisure, prices of alcoholic beverages, and increasing physical availability among others.

My emphasis on the demand factors, consumer behavior, and use values is not intended to mislead to the devaluing of other types of processes that may be at work. Without doubt, for example, the recent WHO Expert Committee is correct in stating:

While there is little in the scientific literature regarding the impact on alcohol consumption of various types and magnitudes of advertising, it is difficult to assume that the alcoholic beverage industry would continue to allocate large sums of money to advertising without evidence from its marketing studies that such expenditures were justified. That the pattern and sometimes the volume of sales of many consumer products may be favorably affected by advertising is well established, and there seems little reason to suppose that alcoholic beverages might differ in this regard. (65).

To name just two other important factors, government policies may be directed either favorably or restrictively toward the increasing use of alcoholic beverages, either by directly affecting the markets or by other means such as education campaigns. Or moral climates may be moving either towards a more favorable valuation of drinking and its pleasures or they may take a more critical appearance on such uses of time.

To a student of the trends in alcohol consumption these and other similar phenomena are by no means irrelevant. In the last concrete analysis, however, they also must be explained, and, in doing this, the question: what *is* drinking? may again come into sight.

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APPENDIX I METHODS OF ESTIMATING PER CAPITA CONSUMPTION FIGURES FOR 1950 IN COUNTRIES WITH INCOMPLETE DATA

Country	Spirits			Beer		Wine	
	Estimate for 1950 Liters	100% Alcohol	Method	Estimate for 1950 Liters	Method	Estimate for 1950 Liters	Method
Bulgaria	0.65		6% pa 1954 <sup>a</sup>	2.94	13% pa 1957/aai	2.50	Year 1956
Czechoslovakia						5.14	6% pa 1953/aai <sup>b</sup>
Iceland	0.50		Year 1951 <sup>c</sup>	8.05	1.6% pa 1954/aai	1.36	4% pa 1960/aai
Portugal	0.50		Year 1964	1.00	16% pa 1964/aai	103.83	Average 1955-1970
Rumania	1.58		Average 1954-1970 <sup>d</sup>	5.75	7% pa 1954/aai	24.09	Year 1954
Spain	2.39		Average 1962-1970				
Switzerland	1.33		2% pa 1962/aai 1962-1968 <sup>e</sup>				
Yugoslavia	2.00		Year 1955	4.50	Year 1955	4.32	Year 1955
Cuba	1.09		Year 1964	14.19	Year 1964	2.09	Year 1964
Peru	0.89		Year 1960				
Cyprus	1.37		Year 1964	8.19	Year 1960	11.50	Year 1960
Israel	0.98		Average 1963-1970	8.50	Year 1953	2.29	Year 1953
Turkey	0.19		Year 1954	1.19	Year 1954	0.79	Year 1954
Australia	0.84		Year 1951	93.00	Year 1951	7.00	Year 1951
New Zealand	1.16		Year 1951	85.39	Year 1951	2.00	Year 1951

<sup>a</sup> "6% pa 1954" means that the estimate has been arrived at on the assumption that the increase from 1950 to 1954 has been 6% per annum. Year 1954 is the earliest for which there is information in WAP Data.

<sup>b</sup> "6% pa 1953/aai" means the same, but the average annual increase has been estimated from the figures for 1953-1970.

<sup>c</sup> "year 1951" means that the figure for 1950 has been replaced by the figure for 1951.

<sup>d</sup> "average 1954-1970" means that the figure for 1950 has been replaced by the average of years 1954-1970.

<sup>e</sup> "2% pa 1962/aai 1962-1968" means that the annual average increase has been estimated from the figures for 1962-1968.

APPENDIX 2 CORRELATIONS BETWEEN THE MEASURE OF BEVERAGE STRUCTURE (R) AND CONSUMPTION LEVEL

Country	Consumption of 100% Alcohol in Liters per Capita 1950-1952	Increase of per Capita Alcohol Consumption 1968-1970/1950-1952	R 1950-1952	R 1968-1970 (1950-1952 = 100)	Correlation Between R and per Capita Consumption 1950-1970	Number of Observed Years
Austria	5.4	199.1	4.7	168.8	0.66	21
Belgium	6.6	125.6	18.4	76.3	-0.95	21
Bulgaria	1.1	498.6	11.1	35.9	-0.91	16
Czechoslovakia	4.9	163.8	12.7	79.1	-0.30	21
Denmark	4.0	168.9	18.4	87.5	-0.91	21
Finland	2.2	181.5	12.5	67.7	-0.56	21
France	17.6	92.0	18.8	92.6	0.90	21
Germany Dem. Rep.	1.9	310.7	12.2	75.6	-0.72	21
Germany Fed. Rep.	3.6	273.3	7.2	126.9	0.55	21
Hungary	4.8	177.7	18.6	38.4	-0.68	20
Iceland	1.1	254.2	7.4	225.0	0.83	14
Ireland	3.4	129.1	17.5	96.4	-0.92	21
Italy	9.4	145.2	23.5	87.7	-0.82	21
Luxembourg	6.8	139.1	7.9	87.4	-0.34	21
Netherlands	1.9	265.3	15.3	62.4	-0.68	21
Norway	2.1	159.5	10.9	91.4	-0.70	21

Poland	3.1	176.6	16.1	70.8	-0.67	19
Portugal	12.9	109.9	25.5	94.9	-0.56	10
Rumania	4.7	134.4	12.9	61.8	-0.57	20
Spain	8.1	144.9	16.1	77.1	-0.76	12
Sweden	4.0	141.8	14.0	58.8	-0.82	21
Switzerland	6.6	153.0	7.9	72.7	-0.95	13
United Kingdom	4.9	126.1	22.0	87.8	-0.80	21
Yugoslavia	2.7	270.5	16.4	40.7	-0.99	19
Canada	4.9	130.0	13.6	87.1	-0.96	21
Cuba	2.0	90.0	9.7	118.2	-0.81	10
U.S.A.	5.0	117.0	10.1	89.7	-0.65	1
Peru	1.3	210.2	13.6	98.2	0.24	14
Cyprus	3.1	105.8	8.3	66.6	=0.37	11
Israel	1.4	138.6	10.4	70.9	-0.41	11
Turkey	0.3	139.4	9.2	140.6	0.81	19
South Africa	1.8	161.2	6.7	91.6	-0.62	21
Australia	6.4	126.1	16.5	102.2	-0.33	21
New Zealand	5.6	127.6	17.6	104.6	-0.08	21
Aggregate beer countries	4.8	142.0	11.9	79.5	-0.99	21
Aggregate wine countries	10.7	119.7	19.5	85.5	-0.92	21
Aggregate spirits countries	2.0	195.5	12.8	45.5	-0.91	7
EEC	9.1	134.5	15.6	68.2	-0.94	21

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