

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672

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over another (de Lint and Bronetto 1966; de Lint and Schmidt 1971; Popham et al. 1975a). Morbidity and mortality studies have indicated that the class of alcoholic beverage consumed is probably of little significance in the typical illnesses and higher rates of death of heavy drinkers (Lelbach 1974; Schmidt and Popham 1975). As to clinical alcoholism, examination of the literature reveals that beer has been implicated frequently (Ledermann 1964; Lelbach 1967; Skala 1967; Wilkinson et al. 1969). Indeed, the beverage preferences of alcoholics seem to reflect simply the preferences characteristic of the population in which they live, with a distinct tendency towards the cheaper sources of alcohol (Devrient and Lolli 1962; Lolli et al. 1958, 1960; Parreiras et al. 1956; Sadoun and Lolli 1962; Terry et al. 1957).

If a sound rationale for differential taxation does not reside in a differential liability of the various beverages to generate alcohol problems, it may yet exist in quite another direction. In at least two countries - Canada and the Republic of Ireland - the demand for beer has been shown to be largely price inelastic (Lau 1973; Walsh and Walsh 1970). This means that if there were a substantial increase in the price of beer, the previous consumption level would likely be maintained, presumably at the expense of something else. Walsh and Walsh (1970) pointed out that a consequence for low income families might be neglect of nutritional or other necessities. The possibility of such an effect would have to be weighed against the likelihood that differential taxation will ultimately result in the substitution of beer for the more costly sources of alcohol, and thereby negate the preventive effect sought.

In this regard, the experience of Denmark is of special interest. An extreme

high tax in 1918, levied only on distilled beverages, led to a very sharp decline in the consumption of these beverages, and a parallel drop in indicators of alcohol problems (Nielson and Strömbergren 1969). However, the decline in use of distilled spirits was eventually replaced by a rise in the consumption of beer. In recent years, overall alcohol sales per capita have been the highest in Scandinavia and the prevalence of alcohol problems - at least as reflected in the liver cirrhosis mortality rate - is again substantial (Popham et al. 1975a).

In summary, there is little evidence to justify differential taxation on the grounds that beer is a comparatively harmless beverage of moderation while distilled liquor is a comparatively harmful beverage of excess. Pragmatically, however, it would seem that the imposition of a high tax on distilled spirits can lead to a decline in alcohol problems. But the effect may be temporary with eventual substitution of less expensive beverages. Uniform price control, on the other hand, might be expected to prevent substitution, but may have undesirable consequences, especially for low income families, owing to the demand inelasticity of one or another beverage.

THE MONOPOLY SYSTEM OF CONTROL

It has been widely believed that when the alcoholic beverage trade is in the hands of private enterprise, competition inevitably leads to practices which stimulate greater consumption and, consequently, a higher prevalence of alcohol problems. Proponents of this view have, therefore, favored a system whereby the state or its official agency maintains a monopoly of the whole or a significant part of the trade.

Following the repeal of Prohibition in North American jurisdictions, all provinces of Canada and about a third of the states of the United States adopted a government

monopoly system. In the remaining states, the alcoholic beverage trade was given over to private enterprise with control exercised through licensing. Jellinek (1947) analyzed trends within the states under each system for the period 1930 to 1945. He could find no evidence of an effect on "rate of inebriety", and with respect to trends in apparent consumption, noted that "the monopoly system did not prevent fairly large increases; nor did the license system lack small increases" (p. 16). Popham et al. (1975a) examined differences between the two groups of states for the year 1964. Higher mean rates of liver cirrhosis mortality, total alcohol sales and sales by type of beverage were exhibited by the license group, although only the difference for wine sales was statistically significant. Recently, Andreano and Li (1974) conducted a similar comparison but employed the male cirrhosis death rate, which may be a more sensitive index of differences in the prevalence of heavy drinking. They found the mean rate to be significantly higher in the license states. However, neither of these studies controlled for income level which, on the average, is higher in license than in monopoly states (Simon 1966b), and known to be an important determinant of the demand for alcoholic beverages.

It must be emphasized that to contrast monopoly and license states in the U. S. A. is not to compare 'control' with 'no control', nor even to compare areas where competition for private profit is largely absent with those where it is rampant. Among both license and monopoly states there are important differences in the extent to which emphasis is placed on the revenue-producing rather than the problem-controlling function of the system (Barker 1957; Landis 1948; McCarthy and Douglass 1959; Simon 1966b). Therefore, a better test of the effectiveness of the latter would be to disregard the official classification and base the comparison on relevant differences

in operation independently validated.

Certainly in the past there have been monopoly systems which clearly had the control of alcohol problems as a primary objective (Popham et al. 1975b; Smart 1974b). In some instances, these have involved attempts to monitor individual use, prevent consumption beyond a specified level, and exclude identified problem drinkers from purchasing. The effectiveness of such systems has rarely been studied, and never with conclusive results, so far as the present writers are aware. The Bratt system in Sweden is a case in point (Elmer 1957). It was abolished in 1955 and replaced by a far less restrictive form of monopoly control. According to Boalt and von Euler (1959), the change was followed by a rapid initial increase in alcohol sales, drunkenness arrests and impaired driving. But by 1958, apparent consumption had dropped below the 1954 level. However, since substantial tax increases had been imposed by that time - which could have been responsible for the decline - no conclusion could be drawn from the post 1955 trends as to the relative effectiveness of the two systems of control.

It may be, as Christie (1965) has suggested, that when a state monopoly is rather comprehensive, and a primary objective is prevention, alcohol problems are less prevalent than they otherwise would be. But then the question becomes whether or not the particular measures which prove effective could not be applied equally well under a licensing system. Presumably under a monopoly, both the number and potential political influence of those with a vested economic interest in higher levels of alcohol consumption is less. It would also seem that the implementation and enforcement of various types of control measure, and the monitoring of their effects are facilitated by a centralized system. However, the overriding consideration is prob-

ably the emphasis which the controlling authority places on the preventive aspect. When the control of alcohol problems has become secondary to marketing and distribution objectives, a state monopoly system may function, in effect, as a particularly powerful ally of the alcoholic beverage industry.

EPILOGUE

There would appear to be agreement among students of law and drinking behaviour on at least three points: (1) highly restrictive controls on accessibility lead to lower consumption and fewer alcohol problems; (2) such controls are unlikely to be implemented in the absence of substantial public support; and (3) such controls are apt to involve costs which eventually will be perceived to outweigh their benefits (Bruun 1970; Christie 1965; Lemert 1962; Mäkelä 1972; Room 1971; Shadwell 1923).

It is also increasingly recognized that the corollary of these conclusions is true: "liberalizing the system leads to an increase in consumption, and an increase in consumption adds to the complications" (Mäkelä 1972 p.21). Indeed, minimum control may well carry as high costs as very severe restriction. For example in France, where there have been few legal restraints on drinking, and the highest known consumption level of any country has prevailed, it has been estimated that over 40% of the total health bill is attributable to the treatment of alcohol-related diseases, and about 50% of all hospital beds are occupied by patients suffering from these conditions (Brésard 1969). It is significant that France seems to have been the only Western country in recent years to introduce new and far-reaching restrictive measures in an effort to reduce consumption (Fleck 1970). The trend elsewhere

has been in the opposite direction.

Doubtless many factors are responsible for the widespread relaxation in alcohol control policies during the post World War II period. However, three are evidently of particular importance. One of these, mentioned at the outset of the review, is the rise of the 'disease concept' of alcoholism. This has led many to the belief that whatever may influence the demand of most people for alcohol will be irrelevant to the demand of the alcoholic. A second factor has been the unrealistic expectation in the past of the ability of the law to solve alcohol problems. Thus, the 'failure' (i. e., adverse consequences) of Prohibition and other highly restrictive legislation is still often cited to buttress arguments against legal measures with far more modest aims. But perhaps the most powerful influence on the trend has been the rise of increasingly permissive attitudes towards individual rights and the control of behaviour. This has led to the denigration a priori of legal restraint, and a search instead for means of prevention consistent with the thrust towards self-determination in areas of social concern.

An outcome, especially in North America, has been the adoption by many of a model of prevention which envisions rather fundamental changes in attitudes and behaviour respecting alcohol use. These changes are to be achieved mainly through education and parental example. Legal measures tend to be seen as impediments to the development of healthy drinking habits. It is felt by at least some proponents of the model that rendering alcohol readily available to everyone from an early age, and allowing its introduction into all areas of everyday life, will reduce the mysticism associated with it. Alcohol will then come to be regarded as no more remarkable than any other consumer product, and therefore, will be used moderately.

It is difficult to reject, in principle, a goal which is not a little reminiscent of the view that everyone should be taught a healthier life style in order to reduce or eliminate many chronic ailments. No doubt utopic ends are worthy of pursuit, but it is questionable whether this is a sound justification in the interim to promote changes quite probably detrimental to public health, or to oppose measures of potential benefit. In this regard, we cannot do better than conclude with Edwards' (1971, p. 424) succinct statement on the matter: "Since we are not able to manipulate personality and produce a race with no neurosis, the only realistic method of exerting a benign influence on the prevalence of alcohol addiction is by control of the environmental conditions of drinking, and it is the availability element that remains the prime candidate for control."

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Why regulate? "alcohol intoxication frequently leads to socially undesirable behavior."

pg 4
Economic studies have consistently shown that alcoholic beverages tend to behave on the market like many³¹⁷ other commodities. Thus, as prices have fallen the consumption of alcoholic beverages generally increased, and in the few instances where prices increased sharply the demand decreased."

CONTROL LAWS AND PRICE
MANIPULATION AS PREVENTIVE
STRATEGIES

by

Jan de Lint
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CONTROL LAWS AND PRICE MANIPULATION AS PREVENTIVE STRATEGIES

J. de Lint and W. Schmidt*

Our task this morning - to discuss control laws and price manipulation as preventive strategies - would have been eased somewhat if, in the past, many of these measures had clearly been intended to reduce or prevent the incidence of some specific alcohol problem, be it drunkenness, chronic excess, physical dependence on alcohol, or ill health and other forms of damage usually attributable to occasional or chronic excess, and if, subsequently, the efficacy of these measures with regard to these objectives had been carefully investigated. Unfortunately - with a few exceptions - neither is the case (1).

We are also well aware of the fact that the issue of government control in the area of alcohol use is politically highly sensitive. Not only is the production and distribution of alcoholic beverages of considerable economic importance in many countries, also beverage alcohol is a very versatile and popular food consumed at quite different occasions (Table I). Changes in government controls would therefore affect a large number of consumers, as well as a significant sector of the

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economy. Thus, added to the relative scarcity of good data, we must take into account that questions concerning control laws are much in the public domain and tend to arouse strong feelings. It is not sufficient to merely assess the available evidence related to the effect of a specific measure on the incidence of an alcohol problem, we must also be prepared to consider public reactions to policy recommendations derived from such research.

Before commenting on the evidence and the preventive strategies implied, we might first ask the question why so many control laws überhaupt exist in the alcohol field. In view of the sensitivity of this issue, why is it that we do not rather find a laissez-faire attitude on the side of government? Probably one of the most important reasons for the enactment of control laws is that alcohol intoxication frequently leads to socially undesirable behavior. Other reasons include to secure revenue for the state, to prevent fraudulent or harmful practices on the part of the producer and distributor, to protect public health, and to restrain political activity that might occur among groups of men drinking in taverns. But, in our view, the overriding concern reflected in control policies of recent date has been social welfare, that is, the minimizing of socially undesirable behavior.

Elsewhere we assessed in detail much of the evidence related to the efficacy of alcohol control laws and taxation policies (2). We have concluded that some of these control measures are indeed highly relevant to the prevention of alcohol problems. Of course, in the general area of population research it will rarely be

possible to produce findings that can establish a case beyond dispute. Those who oppose certain alcohol control laws and taxation policies will undoubtedly exploit some of the methodological difficulties inherent in research of this sort (3). In this context it should be noted that our policy recommendations were formulated in terms of high probability rather than of certainty of effects.

Control laws and taxation policies

In the case of control laws the overall impression one gains from the literature is that minor variations in the density, location and type of outlet, in the hours and days of sale or in many of the other regulations governing the context in which drinking takes place (e.g., the decor, seating arrangement, entertainment offered) have no measurable effect on the incidence of occasional excess and other alcohol problems. On the other hand, some of the more dramatic changes in control laws that have occurred apparently did affect the incidence of alcohol problems. For example, the sudden expansion in the number of on- and off-premise outlets after Prohibition in the U.S.A., the opening of stores in isolated dry areas in Finland and Norway, the rapid rise in number of outlets in Finland in recent years following the release of medium strength beer for retail distribution, lead to noticeable increases in the rates of alcohol consumption and alcohol problems in these jurisdictions.

In the case of taxation policies, econometric studies have shown fairly consistently that alcoholic beverages - in

(spite of the wide variety of their uses - tend to behave on the market like many other commodities (Table II). Thus, as prices have fallen the consumption of alcoholic beverages generally increased, and in the few instances where prices increased sharply the demand decreased. However, the price effect varies noticeably between different types of beverages, countries and regions which illustrates one of the major difficulties inherent in both the econometric analyses of the price effect on alcohol problems as well as in the studies of the efficacy of other control laws. Beverage alcohol - unlike many other commodities - has a wide variety of usages, e.g., dietary, medical, ritual and social. Each of these use patterns may have quite different demand elasticities and the proportionate occurrence of each usage may vary considerably over time, space or cultural group.

For instance, in recent years there has been a rather rapid diffusion of new drinking styles into societies which traditionally had low to medium levels of consumption (4). In many societies where alcohol use was largely restricted to a few social occasions and involved only one or two of the major types of beverage alcohol, we now find that alcohol use occurs more frequently and involves all the major types of beverage alcohol. Indeed, if we consider the changes in consumption levels by type of beverage we note that beer consumption rose very rapidly in countries where alcohol use

patterns involving beer were practically non-existent, alcohol use patterns involving wine are now much more prevalent in countries where wine consumption used to be relatively rare, and distilled spirits have been marketed quite successfully in countries where traditional usage of this type of alcoholic beverage was virtually absent (Table III). It would seem, therefore, that one of the underlying assumptions in econometric analyses, namely that the behavior of the market tends to be constant and that the type of needs for alcohol do not change to any significant extent, is not always justified.

A second difficulty in the study of the efficacy of alcohol control laws and taxation policies is that the enactment, repeal, relaxation and tightening of such measures is rarely an isolated event. For example, in Canada during the last decade many changes have occurred. There has been an increase in the number of outlets, new types of drinking places are now permitted, hours of sale have been extended, drinking age has been lowered, the real cost of alcohol has gone down, some restrictions on alcohol advertising have been removed. At the same time a wider variety of use patterns have now been accepted in a more sophisticated and affluent Canadian society. In short, many of the etiologically relevant cultural, economic and legal factors tend to be quite closely related in time and therefore their separate effect, if any, on the incidence of alcohol problems is virtually impossible to

ascertain.

In our report on the effects of legal restraint on drinking many of the other methodological difficulties inherent in evaluative research in the field of alcohol control policies are discussed. Again, it would be hazardous to state that a specific change in a control law or in taxation will result in a given effect on the rate of an alcohol problem. At the same time we wish to emphasize that over the last two decades or so, in most Western countries a steady and at times rapid increase in alcohol consumption and alcohol-related problems has occurred together with a relaxation of many control laws and a decrease in the cost of alcohol (Table IV). Only in France where a determined effort has been made towards restricting alcohol availability (e.g., by reducing the frequency and location of outlets, removing the private distiller's license, raising alcohol taxes) do we find a decrease in alcohol consumption rates and in deaths from liver cirrhosis that began 5 to 6 years ago (5, Table V). Although we are quite well aware of the reasons why these relationships should be interpreted with due caution, the sum total of the available evidence suggests very strongly that, in all low to medium consumption countries, whenever beverage alcohol became more readily available - because of lowering its real cost and/or because of a relaxation in control laws - levels of alcohol consumption and rates of alcohol problems showed a tendency to increase.

Policy recommendations

Accordingly, the Addiction Research Foundation made the following proposals to the Ontario Government:

- 1) A taxation policy which maintains a reasonably constant relationship between the price of alcohol and levels of disposable income (income after taxes) in the Province. For example, if disposable income per capita rose 5% in a year, then the price of each alcoholic beverage offered for sale would be increased by that percentage.
- 2) A moratorium on further relaxation of alcohol control measures and the adoption of a health-oriented policy with respect to such measures. Essentially, this would mean that future proposals to change legislative or other provisions governing the marketing and distribution of alcoholic beverages would be tested against a health objective, namely the prevention of further increases in the prevalence of alcohol problems. The relevant question would become: Are the proposed changes likely to contribute to higher consumption levels and therefore to an increase in health costs?
- 3) An education program designed to increase public awareness of the personal hazards of heavy alcohol consumption, the economic and other consequences for society of high consumption levels, and the potential public health benefits of appropriate control measures.

Incidentally, in the most recent Report of the WHO Committee on Drug Dependence, quite similar recommendations are made to governments (6). Although in our view the aims of these proposals are quite modest - many impediments to their implementation can be anticipated.

Impediments to a public health oriented alcohol policy

First, alcohol use at many different occasions is now quite common and there appears to be little public awareness of the consequences to health of increased consumption. Indeed, many of the newly integrated drinking patterns are considered to be rather sophisticated and quite harmless.

Second, the rapid diffusion of a wide variety of alcohol use patterns into societies with traditionally low levels of consumption has been facilitated by the very efficient marketing efforts of large and often multi-national industries. Also, these industries have been selectively quite active in the field of alcohol research and education. For example, the House of Seagram distributes, in Canada, free of charge, the pamphlet "Alcohol and Alcoholism: Problems, Programs and Progress", a booklet originating with the National Institute on Alcohol and Alcoholism in which any association between legal controls, volume of consumption and rates of alcoholism is denied (Appendix 1).

Third, as I mentioned earlier, no matter how much evidence can be marshalled to support the above proposals, there is no doubt that to a purist the many studies which have led to these proposals all have some methodological shortcomings. In many areas of life style research this is unavoidable. But, since government control of drinking is politically a sensitive and controversial issue, these weaknesses tend to be exploited by the adversaries of such controls while the degree of consistency in the available evidence tends to be ignored.

Fourth, the *raison d'être* of many control laws in the recent past was the social welfare responsibility of governments and not their concern with public health. That some of the same Temperance-tainted control measures which aimed at curbing drunkenness among the poor are now being proposed as public health measures aimed at protecting the health of the affluent may not be easy to explain.

Fifth, some key concepts in the public health approach to alcohol problems, such as the contagious aspects of use patterns, and the risks to health and dependency related to different consumption behaviors will also be difficult to disseminate.

A sixth impediment to the implementation of these proposals would be the existence of several quite popular notions about alcoholism which have been cultivated in recent years by both enlightened educators and the alcohol industry. Examples: alcohol problems are rooted in having ambivalent attitudes towards drinking; the consumption of wines and beer is less likely to lead to alcohol dependence.

Seventh, there is the legislators' perception of the public reaction to the reactivating of restraints on alcohol availability. Although the results of a few recently conducted surveys would seem to indicate that a surprisingly large segment of the population is quite willing to drink less and to pay higher alcohol taxes if these actions would reduce the rates of alcohol problems, legislators may not be aware of the extent of public support for legal restraints (7). In this context it should be noted that the news media often present a very liberalizing and biased point of view regarding alcohol control laws.

Postscript

There is little doubt that these and other factors may seriously delay, if not prevent, the implementation of alcohol control policies which place renewed emphasis on restraining availability. As I mentioned before, the issue of alcohol controls is politically highly sensitive. But the urgent facts are that, in North America, as well as in most other parts of the Western world, alcohol consumption has been steadily increasing over the recent past. Not only are more people drinking now, but their consumption has gone up as well. Drinking occasions have become more numerous, and alcohol use has more and more become an integral part of our daily life. These developments have had a measurable effect on the rate of such alcohol problems as health damage and physical dependence

on alcohol. In our view, these trends should be monitored and regularly brought to public attention. Although the responsibility of government in the area of alcohol control is not well defined - how much alcohol use is to be tolerated at what cost - it is certain that the present government policies of making alcohol more accessible and less expensive relative to disposable income will definitely not result in a stabilization of the prevailing trends towards higher rates of consumption and alcohol problems.

NOTES AND REFERENCES

1. One of these exceptions concerns the problem of intoxication while driving an automobile. Several measures have been specifically designed to reduce the magnitude of this problem and their efficacy has been the subject of many investigations. For instance:

Ross, H.L. The effectiveness of drinking and driving laws in Sweden and Great Britain, Proceedings of the 6th International Conference on Alcohol, Drugs, and Traffic Safety, Toronto, Sept. 8-13, 1974, Addiction Research Foundation, in preparation.
2. Popham, R.E., Schmidt, W. and de Lint, J. The effects of legal restraint on drinking. In: Biology of Alcoholism Vol. IV: Social Biology, (B. Kissin & H. Begleiter, Eds.). Plenum Publ. Corp., New York, in press 1974.
3. For example:
Beer, Wine and Spirits: Beverage Differences and Public Policy in Canada, The Report of the Alcoholic Beverage Study Committee, Brewers Association of Canada, Ottawa, 1973.
4. Ahlström-Laakso, S. European drinking habits: A review of research and some suggestions for conceptual integration of findings. Paper presented at the Conference on Anthropology and Alcohol Studies, Chicago, Aug. 28-30, 1973.
5. Fleck, L. The twelve-year struggle against alcoholism in France. In: World Dialogue on Alcohol and Drug Dependence (E.T. Whitney, Ed.). Beacon Press, Boston, 1970.
6. The 20th Report of the WHO Expert Committee on Drug Dependence, World Health Organization, Geneva, 1973.

7. For instance, in Ontario, the results of a recent survey on social control and alcohol attitudes, conducted by the York University Survey Centre, indicate that more than half of the respondents are willing to pay more for alcoholic beverages if this would reduce the number of alcoholics. More than 70 per cent of drinkers said they would be willing to drink less if this would eventually lead to a reduction in the rate of alcohol problems*. In another recent survey, conducted by the Liquor Control Board of Ontario, it was found that a vast majority of the interviewees are against a further relaxation of alcohol control laws in the Province**.

* Goodstadt, M. et al. Survey on social control and alcohol attitudes in Ontario, Addiction Research Foundation, in preparation.

** Ministry of Corporate and Community Affairs, personal communication.

TABLE I

WORLD PRODUCTION OF BEER, WINE AND DISTILLED SPIRITS
IN HECTOLITRES 1960 AND 1970¹

Year	Beer ²	Wine ³	Distilled Spirits ⁴
1960	411,000,000	247,000,000	12,165,000
1970	638,000,000	309,000,000	20,066,000

¹ Hoeveel alcoholhoudende dranken worden er in de wereld gedronken?
Produktschap voor Gedistilleerde Dranken, Schiedam, the Netherlands,
12e Uitgave, 1973

² Production data available for 113 countries.

³ Production data available for 51 countries.

⁴ Production data available for 28 countries.

TABLE II

INCOME AND PRICE ELASTICITIES OF DEMAND FOR DIFFERENT ALCOHOLIC
BEVERAGES IN A NUMBER OF COUNTRIES*

Author	Country and time period	Beverage	Income Elasticity**	Price Elasticity***
Malmquist	Sweden 1923-1939	Spirits	0.3	-0.3
		Wine	1.2	-0.9
Malmquist	Sweden 1923-1939	Liquor	0.3	-0.37
		Wine	1.32	-0.72
Sundström & Ekström	Sweden 1931-1954	Spirits	0.9	-0.3
		Wine	2.0	-1.6
Bryding & Rosen	Sweden 1920-1951	Spirits	0.6	-0.4
		Wine	0.9	-1.6
		Medium Beer	0.6	-1.2
Huitfeldt & Jorner	Sweden 1956-1968	<u>Off-sale:</u>		
		Vodka	0.0	-0.9
		Other spirits	1.4	-2.9
		Fortified wines	0.2	-0.7
		Light wine	-	-0.6
		Strong beer	1.9	-3.0
		Spirits	0.4	-1.2
		Wine	(0.9)	-0.7
		Spirits + Wine	0.7	-1.0
		<u>On-sale:</u>		
		Vodka	1.0	-0.3
		Other spirits	0.2	-0.5
		Strong beer	2.0	-0.1
Nyberg	Finland 1949-1962	Vodka	0.42	-0.13
		Other spirits	1.30	-0.95
		Wines	0.97	-0.83
		Malt beverages	0.23	-0.49
		Total off-sales	1.05	-1.17
		Total on-sales	0.94	-0.99
		Total sales	1.01	-1.11
Stone	United Kingdom 1920-1938	Spirits	0.6	-0.6
		Imported wine	1.4	-0.6
		Domestic wine	1.7	-0.3

TABLE II cont'd.

Author	Country and time period	Beverage	Income Elasticity**	Price Elasticity***
Stone	United Kingdom 1920-1938	Spirits	0.54	-0.72
		Beer	0.14	-0.73
Walsh & Walsh	Ireland 1953-1967	Spirits	1.94	-0.57
		Beer	0.78	-0.17
Simon	United States 1955-1961	Spirits	-	-0.97
Niskanen	United States 1934-1954	Spirits	-	-1.74
Niskanen	United States	Spirits	-	-1.42
Niskanen	United States 1934-1941, 1947-1960	Spirits	-	-2.0
Schweitzer	Canada	All alcoholic beverages	0.88	-0.19
Lau	Canada 1949-1969	Spirits	0.68	-1.45
		Wine	1.43	-1.65
		Beer	0.20	-0.03

* Österberg, E. The pricing of alcoholic beverages as an instrument of control policy, Finnish Foundation for Alcohol Studies, Helsinki, 1974.

** The income elasticity values indicate the percentage increase in consumption that would result from a 1 per cent increase in income.

*** The price elasticity values indicate the percentage decrease in consumption that would result from a 1 per cent increase in price.

TABLE IIIa

THE 1960 AND 1970 TOTAL ALCOHOLIC BEVERAGE CONSUMPTION
PER CAPITA 15 YEARS AND OLDER IN LITRES OF ABSOLUTE ALCOHOL
(WITH PERCENTAGE INCREASES)

Country	1960	1970	% change 1960-70
France	27.32	23.98	-12.23
Italy	19.05	20.73	8.82
Spain	11.89	16.89	42.05
Luxembourg	13.75	16.21	17.89
W. Germany	10.15	16.04	58.03
Portugal	15.32	15.72	2.61
CSSR	10.38	14.55	40.17
Switzerland	12.58	14.52	15.42
Austria	10.85	13.29	22.49
Belgium	11.71	13.21	12.81
Hungary	9.15	12.95	41.53
Australia	9.45	11.68	23.60
N. Zealand	9.49	11.02	16.12
E. Germany	7.29	10.47	43.62
Yugoslavia	6.79	10.36	52.58
U.S.A.	7.83	9.74	24.39
Denmark	6.11	9.70	58.76
Canada	7.85	9.58	22.04
Gt. Britain	6.80	8.32	22.35
Sweden	5.86	7.94	35.49
Netherlands	3.82	7.81	104.45
Poland	6.16	7.52	22.08
Rep. Ireland	4.90	7.27	48.37
Finland	3.87	6.33	63.57
Norway	3.56	4.37	22.75

TABLE IIIb

THE 1960 AND 1970 DISTILLED SPIRITS CONSUMPTION PER CAPITA
15 YEARS AND OLDER IN LITRES OF ABSOLUTE ALCOHOL
(WITH PERCENTAGE INCREASES)

Country	1960	1970	% change 1960-70
Poland	3.62	4.42	22.10
Yugoslavia	2.61	4.03	54.41
U.S.A.	2.99	4.01	34.11
W. Germany	2.45	3.95	61.22
Spain	2.76	3.95	43.12
Canada	2.57	3.56	38.52
Hungary	1.88	3.43	82.45
E. Germany	1.77	3.41	92.66
Sweden	2.95	3.34	13.22
CSSR	1.32	3.09	134.09
France	2.74	3.01	9.85
Netherlands	1.64	2.82	71.95
Finland	1.86	2.41	29.57
Switzerland	2.06	2.41	16.99
Luxembourg	1.60	2.30	43.75
Italy	1.26	2.24	77.78
Rep. Ireland	1.09	2.11	93.58
Austria	3.07	1.85	-39.74
Belgium	1.01	1.73	71.29
Denmark	.83	1.66	100.00
Norway	1.71	1.56	-8.77
N. Zealand	1.47	1.54	4.76
Australia	1.19	1.46	22.69
Gt. Britain	.99	1.20	21.21
Portugal	.71	.70	-1.41

TABLE IIIc

THE 1960 AND 1970 WINE CONSUMPTION PER CAPITA 15 YEARS AND
 OLDER IN LITRES OF ABSOLUTE ALCOHOL (WITH PERCENTAGE INCREASES)

Country	1960	1970	% change 1960-70
Italy	17.44	17.74	1.72
France	20.68	16.82	-18.67
Portugal	14.40	14.09	-2.15
Spain	8.37	10.26	22.58
Switzerland	5.65	6.53	15.58
Hungary	4.81	5.75	19.54
Luxembourg	4.76	5.72	20.17
Austria	3.18	4.93	55.03
Yugoslavia	3.70	4.49	21.35
W. Germany	1.65	2.70	63.64
CSSR	2.18	2.30	5.50
Belgium	1.22	2.19	79.51
Australia	.91	1.54	69.23
Sweden	.51	.97	90.20
N. Zealand	.38	.97	155.26
Poland	.82	.93	13.41
Denmark	.49	.93	89.80
Netherlands	.33	.85	157.58
U.S.A.	.59	.83	40.68
E. Germany	.48	.79	64.58
Canada	.37	.73	97.30
Finland	.22	.65	195.45
Gt. Britain	.25	.46	84.00
Norway	.20	.37	85.00
Rep. Ireland	.16	.28	75.00

TABLE IIIId

THE 1960 AND 1970 BEER CONSUMPTION PER CAPITA 15 YEARS AND
OLDER IN LITRES OF ABSOLUTE ALCOHOL (WITH PERCENTAGE INCREASES)

Country	1960	1970	% change 1960-70
W. Germany	6.05	9.39	55.21
CSSR	6.88	9.16	33.14
Australia	7.35	8.68	18.10
Belgium	7.32	8.63	17.90
N. Zealand	7.64	8.51	11.39
Luxembourg	7.30	8.19	10.83
Denmark	4.79	7.11	48.43
Gt. Britain	5.56	6.66	19.78
Austria	4.60	6.51	41.52
E. Germany	5.04	6.27	24.40
Canada	4.91	5.29	7.74
Switzerland	4.08	5.08	24.51
U.S.A.	4.25	4.90	15.29
Rep. Ireland	3.65	4.88	33.70
Netherlands	1.72	4.00	132.56
Hungary	2.46	3.77	53.25
Sweden	2.40	3.63	51.25
Finland	1.79	3.27	82.68
France	2.40	2.71	12.92
Spain	.76	2.68	252.63
Norway	1.65	2.44	47.88
Poland	1.72	2.17	26.16
Yugoslavia	.48	1.84	283.33
Portugal	.21	.93	342.86
Italy	.35	.75	114.29

TABLE IV

THE COST OF 1 GALLON OF ABSOLUTE ALCOHOL IN THE FORM OF WINE,
BEER AND DISTILLED SPIRITS EXPRESSED AS A PERCENTAGE OF ANNUAL
PER CAPITA DISPOSABLE INCOME, CANADA 1950, 1960 AND 1970.

Year	Wine (%)	Beer (%)	Distilled Spirits (%)
1950	3.36	3.16	6.30
1960	2.87	2.58	4.73
1970	2.28	1.83	3.39

TABLE V

LIVER CIRRHOSIS MORTALITY RATES AND PER CAPITA ALCOHOL
CONSUMPTION, FRANCE 1950 TO 1972

Year	Deaths from liver cirrhosis per 100,000*		Per capita consumption in litres of abs. alc.
	Male	Female	
1950	21.53	12.05	19.86
1951	25.28	14.64	20.36
1952	29.67	17.54	20.75
1953	34.05	19.75	20.72
1954	36.82	20.77	20.89
1955	39.47	22.16	21.42
1956	41.74	22.88	21.34
1957	40.40	20.33	21.33
1958	37.34	17.43	20.07
1959	37.41	17.30	20.19
1960	39.87	18.40	20.12
1961	41.88	19.02	20.26
1962	43.84	19.42	19.73
1963	45.30	19.79	19.98
1964	46.20	20.07	20.18
1965	47.99	20.56	19.79
1966	49.91	20.91	19.61
1967	50.67	20.90	19.03
1968	50.41	20.79	18.61
1969	49.59	20.52	18.26
1970	48.81	20.30	18.28
1971	48.82	20.38	18.24
1972	48.93	20.37	18.30

* Centered moving averages

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"*Alcohol & Alcoholism - Problems, Programs & Progress*" was written by the National Institute of Mental Health and the National Institute on Alcohol Abuse and Alcoholism, both of the United States. It was published under the auspices of the U.S. Department of Health, Education and Welfare and was printed originally by the U.S. Government Printing Office.

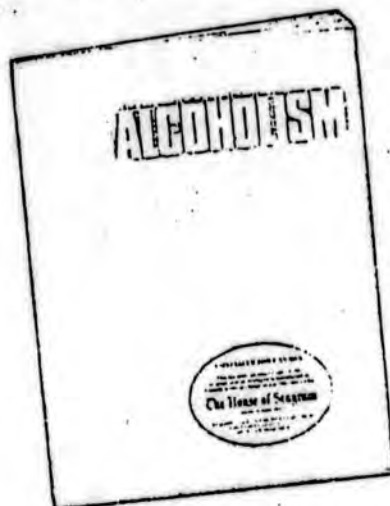
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6A

Alcohol Control Policy in Canada

REGINALD G. SMART

Alcohol controls have been a controversial and rapidly changing aspect of public policy in Canada. In the past, the temperance sentiment was so important in Ontario that elections of government were won or lost because of it. As alcohol policies become liberalized, they also become much less important politically. However, public controversy still surrounds the minimal drinking age, alcohol advertising, and whether beer and wine should be sold in grocery stores. Alcohol control policies are complex in Canada, with laws and regulations varying by province and over time in the same province. This chapter describes the background of controls in Canada, their current status and rationale, and the controversy surrounding them.

ALCOHOL CONTROL IN CANADA: AN OVERVIEW

The constitution in Canada is currently a combination of the new Canadian Constitution and remnants of the British North America Act (B.N.A. Act), which together define the powers of the various levels of government and the courts. The B.N.A. Act of 1867 set out the most important rules for the establishment of institutions and the use of political power in the country, and these have not yet been changed by the new Constitution. It describes the powers held by the federal and provincial governments. Although alcohol control policies, alcohol sales, and alcohol distribution are

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not specifically mentioned in the Act, it is stated that "in each province the legislature may exclusively make laws in relation to . . . Shop, Saloon, Tavern, Auctioneer, and other licenses . . . [and] . . . generally all matters of a merely local or private nature in the province." Also, trade within provinces is regulated by the provinces themselves. In practice, most aspects of alcohol control policies, such as ages of access to alcohol, numbers and types of outlets, distribution networks, types of beverages, and hours of sale are governed by the provinces.

Limited federal powers control some aspects of how alcoholic beverages are marketed. For example, the federal government controls customs and hence most aspects of importation. It can also tax alcoholic beverages in all provinces. Because broadcasting is federally controlled, the types of alcohol advertisements are limited by federal regulations. Alcohol sales on airplanes, in airports, and to Eskimos and Indians are also federally regulated. Both federal and provincial regulations govern packaging, labeling, and the purity of the ingredients of alcoholic beverages. In practice, however, the alcohol control system is chiefly a provincial one and is seen to be so by citizens and politicians.

Because alcohol control policies are mostly a provincial matter, there is no one unified system of controls. There are 10 provincial systems plus one for the Yukon and another for the North West Territories, or 12 in all, plus many local variations on Indian reservations and in Eskimo communities. There is little effort to harmonize these systems or to provide central control or management. Each is operated independently.

ALCOHOL CONSUMPTION IN CANADA

Per capita, alcohol consumption in Canada increased by about 50% between 1950 and 1975. In 1975 the average consumption was 2.47 gallons of absolute alcohol per person (15 and over). Since 1975 there has been virtually no change in average consumption. Speculations about the reasons for the recent stabilization of consumption include changes in life-style and attitudes, increased prices, concern about alcohol problems, and personal austerity created by the stabilization of real income. Currently, the actual importance of these reasons is unclear.

Alcohol use is not uniform across the country (Addiction Research Foundation, 1978). The highest consumption is in the Yukon and the North West Territories—about twice as high as in New Brunswick. Indians and those living in the north are especially high consumers. Currently, about 80% of the adult population drinks, with higher proportions of drinkers among men, those aged 18 to 55, and those living in large cities. About 50% drink once a week or more and 10% to 15% drink almost daily.

Canada is a predominantly beer- and spirits-drinking country. About 53% of alcohol is consumed as beer with about 38% as spirits and about 9% as wine. Spirits contribute a larger proportion to overall consumption in the provinces of Ontario, Manitoba, Alberta, British Columbia, and the Yukon. Beer predominates in the other provinces. Although wine has made the largest proportionate increase in sales over the past 25 years, it remains a small part of all alcohol sold. Single and Giesbrecht (1979) have estimated that the contribution of home production of beverages results in an underestimation of real consumption by about 4% to 6%. Home production has never been a substantial contributor to consumption in Canada.

CURRENT STATUS OF MAJOR ALCOHOL CONTROLS

In Canada, alcoholic beverages are made available chiefly through government monopoly systems. Each province has a "liquor control" board, commission, or corporation. These boards, or commissions, have virtually total control over what alcoholic beverages can be sold, how and when they are sold, and to whom. They also set prices for alcoholic beverages (along with the federal government) and govern the number of outlets of all types. This differs considerably from some states in the United States and many European countries in which prices and availability are set by market forces rather than government regulation.

SALES OUTLETS

Various alcohol monopolies exert strong control over the distribution of alcoholic beverages. None of the monopolies actually produces alcoholic beverages of their own. However, some do import them in bulk and re-bottle them with their own labels and thus appear to the consumer to be the manufacturer. In fact, all production of alcohol in Canada is in the hands of private companies.

The relative proportions of different types of outlets vary somewhat from one province to another within a rather narrow range. In no province do monopolies operate restaurants or bars, and their retail activities are limited to package stores of different types. The most usual situation is that spirits and wine are sold only through the monopoly's own stores, whereas beer is more freely available. However, in Ontario there are a small number of privately owned wine stores operated by the wineries.

A few provinces allow the sale of alcoholic beverages in grocery stores. Quebec allows the sale of beer and wine in small grocery stores, as well as in the liquor corporation's own stores. Ontario does not technically allow the

sale of wine in grocery stores, but a few large stores have small booths for wine sales operated by the wineries themselves. However, wine purchases must be paid for separately and cannot be part of the food sales. Beer is sold in food stores in Newfoundland. No other provinces allow the sale of alcoholic beverages in food stores.

Packaged beer is made available in Canada in a number of ways. Typically, imported beer is available only through monopoly stores. Local beer is sold only through such stores in several Maritime provinces. In Ontario, however, it is sold not only through monopoly stores, but also at breweries and at stores owned by the brewery consortium. Western provinces have sales through board stores but also sales through hotels with off-premise licences. The Canadian drinking public has far better access to beer than to wine or spirits, except perhaps for the Quebec drinker who can purchase beer and wine at grocery stores.

On-premise consumption is allowed at a variety of places, including the following:

1. Taverns, or public houses, or beer parlors typically sell only beer (with or without food). Restrictions have been raised in some provinces to sell wine as well. Western provinces recently have allowed the sale of spirits in these previously "beer only" places.
2. Restaurants can sell alcoholic beverages only with meals. The majority can sell all three types of beverages, but some are limited to beer and wine.
3. Lounges sell all beverages without any food requirement.
4. Clubs may have the right to sell any or all beverages on a permanent basis.
5. For special events, churches, clubs, or other institutions may get licenses to sell beverages, usually only wine or beer, for a particular event (e.g., a wedding or party).

Local option laws in most provinces allow voting on the introduction of different types of outlets. In most parts of Canada such votes have been won by liberal forces and consequently alcoholic beverages are available nearly everywhere. However, some anomalies exist. For example, local option has kept alcoholic beverages from being sold in any form in an area of Toronto, and several communities in the North West Territories have voted to have prohibition introduced (Smart, 1979).

Visitors to Canada usually find availability of alcoholic beverages low compared to most European countries or most parts of the United States and about comparable to most Scandinavian countries.

HOURS OF SALE

The hours of sale in Canada are difficult to summarize. They change frequently. Most package stores are open for business for 8 to 12 hours per day with no sales on Sundays or holidays. On-premise consumption is typically allowed from noon until midnight or 1 A.M., with a break for the dinner hour in some provinces. Formerly, on-premise consumption on Sundays was not generally allowed, but now some provinces allow Sunday drinking especially when a meal is also ordered.

ADVERTISING OF ALCOHOLIC BEVERAGES

There is a wide range of laws and regulations affecting advertising in Canada. Prince Edward Island permits virtually no advertising of any kind while in Saskatchewan and in New Brunswick only public service advertisements in newspapers are allowed. Ontario and Quebec are the most liberal about advertising, but neither allows exterior signs, billboards, or posters. All Canadian provinces have far less alcohol advertising than do European countries and most states in the United States.

The advertising of alcoholic beverages is limited by both federal and provincial regulations. Although federal regulations forbid the advertising of spirits on radio or television, magazine and newspaper advertising is allowed for spirits in several provinces. In most provinces beer and wine can be advertised in any media but wine is not frequently advertised on radio and television because of the high costs. Even where advertising is permitted, there are numerous regulations as to types of advertisements allowed, who can be in them (no children), what they can portray (fun but no problem-solving effect of alcohol), and where they can be presented (e.g., not on children's television programs). Manitoba has recently banned beer advertising in electronic media as did British Columbia, but there seems to have been no effect on sales (Ogborne & Smart, 1980; Smart & Cutler, 1976).

LEGAL DRINKING AGE

The legal drinking age for alcoholic beverages is either 18 (Prince Edward Island, Quebec, Manitoba, Alberta) or more frequently 19. It changed in all areas from 20 or 21 in the period between 1970 and 1975. This was part of a general movement toward lowering and standardizing the

age of majority. Recent findings by several provinces that these age reductions led to increases in drinking and drinking problems among young people (Smart & Goodstadt, 1977) have led to debate about the age law in many provincial legislatures. Consequently, Saskatchewan and Ontario increased their drinking ages from 18 to 19 in the late 1970s.

SOME HISTORY AND CURRENT POLICY ISSUES

Alcohol control policies have been public and political issues in Canada. In the early 1900s politicians could not be elected in many areas without a clear temperance plank to their platform. Temperance issues were frequently debated in legislatures. Most provinces voted for prohibition in the early part of the century. The temperance movement seems to have lost its political base and now holds little influence over political life in Canada.

Much of the current availability of alcohol in Canada is recent and follows a change in public attitudes concerning it. Prior to conclusion of World War II, many provinces had no on-premise consumption of spirits in bars or lounges and few restaurants where any alcohol could be purchased. "Beer parlors" and "hotels" were common where only beer was sold, frequently only to men, although some had "women's sections." With the end of the World War II there were many social and attitudinal changes. A clear need was seen by politicians (apparently without actual surveys) for bringing liquor laws into step with more liberal public attitudes. The period from 1948 to 1975 was one in which physical availability of alcohol to Canadians greatly increased. The number of changes is too great to document fully here but the list for Ontario, which is similar to most provinces, includes the following:

- 1948—Drinking in bars—spirits by the drink for the first time
- 1951—Votes of local option nature could be held before a license was issued rather than only afterward
 - Liquor could be consumed in a trailer or tent for the first time
- 1953—Food could be sold in taverns
- 1956—Local option votes were allowed in areas with populations of 50,000 or over
- 1957—Liquor permit books discontinued in favor of permit cards
- 1960—Allowance was made for carrying liquor bottles from the store to a residence
 - Liquor could be given as a gift
- 1962—Liquor permits were discontinued altogether
 - Private clubs could have licenses in otherwise dry areas

- Hours of sale for on-premise consumption were extended up to 12 hours per day
- 1962—Liquor could be served through room-service in hotels
 - Motels and summer resorts were allowed to apply for licenses for the first time
- 1965—"Wine" could be made from all fruits as well as grapes
 - No cancellation of licenses allowed without a hearing
 - Right to appeal interdiction proceedings introduced
 - Allowed hotels in small towns to apply for licenses
 - Allowed sale of liquor on airplanes
 - Allowed sale of liquor in theatres
 - Allowed opening of public houses between 6:30 and 8:00 P.M.
 - Approved open-air drinking on patios, in backyards, etc.
 - Allowed drinking in hotel rooms for those who were not actual residents
- 1969—Introduction of self-service stores
- 1970—Allowed unsegregated seating of males and females in licensed establishments
 - Licenses could be granted to resort centers in dry areas of the provinces
- 1971—It was no longer necessary to order a meal in order to have a drink in a dining lounge
 - Drinking was allowed with meals on Sunday in licensed restaurants
 - Relaxed permits for special events, for example, fairs, festivals, winter carnivals, Oktoberfests, etc.
 - 40 oz. bottles of spirits allowed for sale (26 oz. was the largest before)
 - Package stores were allowed to stay open until midnight
 - Duty free stores at airports were allowed to sell alcoholic beverages
 - Drinking establishments were allowed to open after polls had closed on voting days
- 1971—Licenses were issued to new premises without a waiting period
 - Lowering of the legal drinking age from 21 to 18
- 1973—Broadening of definitions of recreational facilities and theatres eligible for licenses
 - Licenses allowed for canteens on campuses of colleges and universities
- 1975—Minors could be served alcohol by parents in their own houses
 - Opened bottles could be transported to any destination

None of these changes is significant in isolation. However, their combined impact was to change a temperance-oriented, rather dry province into one in which alcohol was readily available and the majority of people were drinking. Similar changes were enacted throughout the country.

At present, availability has stabilized or even slightly decreased in several parts of the country. Two provinces have *increased* the legal drinking age (Ontario in 1979, Saskatchewan in 1976). Several communities in the north have introduced prohibition (Smart, 1979) and others are considering it. Also, some provinces have introduced limited alcohol advertising bans for electronic media. In addition, some provinces (e.g., Ontario and Saskatchewan) recently have strengthened advertising codes to limit "lifestyle" advertisements. Several provinces have debated the issue of introducing wine and beer into grocery stores at the request of local merchants and tourist agencies. In Ontario and Manitoba, however, these plans have been clearly rejected, at least for the present. Overall, there seems to be a tendency for governments to hold physical availability at its present level and in some areas, for example, age laws and advertising, to even decrease it slightly. Whether this tendency can and should continue is a matter for speculation and debate.

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ALCOHOLISM and
DRUG ABUSE—Anchorage

A Note on the Effects of Changes in Alcohol Control Policies in the Canadian North

Reginald G. Smart¹

SUMMARY. *Of three communities changing their alcohol control policies, only Frobisher Bay, the most isolated, experienced a noticeable decrease in arrests for assault and public drunkenness.*

Although tolerant attitudes toward drinking and drinking problems have been common in communities of the Northwest Territories since the 1960s, recent events indicate that attitudes are changing. This area has had a per capita consumption of 3.86 gallons of absolute alcohol per year, compared with 2.89 for British Columbia, the Canadian province with the highest per capita consumption, and 2.44 for Canada as a whole (1). It is thought² that violence and accidental death are related to heavy alcohol consumption in the Canadian North, and there has been increasing awareness of the need for change in alcohol control policies. During 1976 the laws of the Northwest Territories were changed to allow local option votes on banning the sale of various beverages. Since that time, at least 12 communities consisting mainly of Eskimos have voted to restrict the sale of alcoholic beverages or to ban them altogether. These bans have been enforced not only to control alcohol consumption but also to show the growing strength of the Eskimos' resolve to be free of the White man's problems and influences.

The purpose of this paper is to analyze the effects of these policy changes in three communities by examining changes in arrest rates for public drunkenness, assault and impaired driving; these communities are compared with two communities that did not change their alcohol control policies. Other communities that had changed their alcohol control policies were too small or had adopted changes too recently to be included in this statistical analysis. Although statistics on alcohol-related arrests may be influenced by such factors as public policy regarding arrests, these statistics were the most relevant data available for communities as small as those studied.

Previous research (e.g., 2, 3) has shown that substantial changes in

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² GIESBRECHT, N. Alcohol consumption, alcohol problems and economic development in northern Ontario. Addiction Research Foundation Substudy No. 945, 1978.

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the availability of alcohol (e.g., prohibition or a decrease in the legal age of purchase) affect per capita consumption, but small changes (e.g., in number of outlets or hours of sale) do not. When package stores have been closed during strikes, the incidence of drunkenness and other alcohol-related problems has been reduced (4, 5). It was predicted that prohibiting the sale of alcoholic beverages in the Northwest Territories would have considerable effect on rates of arrest for public drunkenness, assault and driving while impaired since the northern communities are relatively isolated, with few roads connecting them and infrequent air service, if any, which is subject to interruptions from bad weather. If the package stores or bars in one of these towns are closed, it is more difficult to travel to the next town than it would be in a more developed area farther south. Also, since the communities are relatively small and homogeneous, any change in laws, especially if it was supported by a popular vote, should have the predicted results. In view of these factors, the most noticeable effects of changes in alcohol policy would be expected in the most isolated communities. Soon after the changes were instituted, reports (e.g., 6) indicated a reduction in both drinking and alcohol-related problems.

METHODS

The data for this study were gathered from police records of arrests for public drunkenness, assault and driving while impaired (with a minimum blood alcohol concentration of 0.08%).³ The communities chosen for study were Frobisher Bay, Rae-Edzo, Fort Resolution, Inuvik and Pangnirtung.

Frobisher Bay. A comparatively large town on Baffin Island, about 1280 air miles north of Montreal, Frobisher Bay had a population in 1976 of 2320; in 1975 there were 863 arrests for public drunkenness. Access to other communities is limited since no road system exists outside the town. Although the sole package store was closed on 30 April 1976, alcoholic beverages can be ordered by mail from Yellowknife or Montreal. From 1974 to 30 April 1976, Frobisher Bay had 4 alcohol sales outlets: a hotel, an Armed Services Club, a liquor warehouse and a private club. (At present, the liquor warehouse supplies surrounding communities by mail order but does not sell alcohol directly to the people of Frobisher Bay.) Since Frobisher Bay is so isolated, it was expected to show the most change in alcohol-related arrests after the new alcohol control policy was instituted.

Rae-Edzo. This town is actually 2 small, connected communities on northern Great Slave Lake, about 700 miles north of Edmonton. In 1976 its population was 1158, and in 1975 there were 196 arrests for public drunkenness. It is linked by a gravel highway to Yellowknife, Edmonton and to other more southerly cities. In the past, a complex but ineffective rationing system was applied to Indians in Rae-Edzo but not to Whites or Metis (people of mixed Indian and White parentages); however, in August 1976, total prohibition came into effect. From 1974 to the present, there have been no

³ I am indebted to Nancy Cooper of Yellowknife and to the Royal Canadian Mounted Police for making these data available.

alcohol sales outlets in Rae-Edzo itself, although alcohol can still be imported by air or bought in Yellowknife or other, more southerly cities.

Fort Resolution. A small community on the southern shore of Great Slave Lake, about 600 air miles from Edmonton, Fort Resolution had a population of 497 in 1976. In 1975 there were 42 arrests for public drunkenness. Fort Resolution is linked by a gravel highway to Yellowknife, Edmonton and to more southerly cities. As with Rae-Edzo, there have been no outlets for alcohol sales in Fort Resolution from 1974 to the present, although there is a package store about 60 miles away by road. In March 1975 an additional form of rationing went into effect allowing no more than 12 bottles of beer and a 25-oz bottle of distilled spirits or wine per week per person. This rationing system, probably more persuasive than punitive, established that anyone caught by police with more than the allowable amount of alcohol could be charged.

Inuvik. This community, situated about 1200 miles northwest of Edmonton, is used in this analysis as a control for Frobisher Bay and Rae-Edzo. It experienced no change in alcohol control policies from 1974 to 1977. In 1976 its population was 3116, and in 1975 it had 1212 arrests for drunkenness. Inuvik is relatively isolated from the south, having only gravel-road and, in the winter, ice-road connections with smaller northern communities. It is an appropriate region for comparison with Frobisher Bay because both are similar in population size, ratio of White to Nonwhite residents, degree of isolation and arrests per population base in 1975. Also, the systems of alcoholic beverage control, i.e., through stores, bars and air importation, were similar in both areas prior to the change in Frobisher Bay. From 1974 to 1977 alcohol sales outlets in Inuvik included a hotel (with a dining room, cocktail lounge and tavern licensed to sell distilled spirits for on-premise consumption and beer for off-premise consumption), a liquor store, an Armed Services Club, a curling club, 2 buildings with licensed dining rooms and another building with a licensed dining room and cocktail lounge. In addition, both the military and Royal Canadian Mounted Police establishments in Inuvik are licensed alcohol sales outlets. Although the comparison of Inuvik to Rae-Edzo is less appropriate because of the differences in population size, no better control seemed to be available.

Pangnirtung. This community, used as a control for Fort Resolution, had no change in alcohol control policies until the end of 1977. It is a small community about 800 miles north of Montreal on Baffin Island. Its population in 1976 was 807; in 1975 there were 32 arrests for drunkenness. It is suitable for comparison with Fort Resolution because both communities, located far from major highways, experience similar problems of isolation.

RESULTS AND DISCUSSION

The rates of arrest for public drunkenness, assault and impaired driving in these communities are shown in Table 1 for quarterly intervals within the 1974 to 1977 period.

Comparing Frobisher Bay, which had its package store closed in April 1976, with Inuvik, which had no change in number of stores, it can be seen that arrests for both public drunkenness and assault decreased substantially immediately after the legal change in Frobisher Bay but only slightly in Inuvik. No real change in the rate of arrests

TABLE 1.—Rates of Arrests for Public Drunkenness, Assault and Impaired Driving in Five Communities of the Northwest Territories, 1974-1977*

	PUBLIC DRUNKENNESS			ASSAULTS			IMPAIRED DRIVING		
	1974-76	1975-76	1976-77	1974-76	1975-76	1976-77	1974-76	1975-76	1976-77
Frobisher Bay	46.7	31.9	10.2	5.1	8.8	4.4	1.4	0.9	1.3
Inuvik	59.8	39.5	36.5	6.7	7.2	6.0	2.8	1.9	2.4
Rae-Edzo	15.3	20.8	26.7	2.6	3.4	1.8	1.5	0.9	0.6
Inuvik	46.5	36.3	45.1	6.4	7.0	5.3	1.7	2.2	1.8
	1974-75	1975-76		1974-75	1975-76		1974-75	1975-76	
Fort Resolution	24.0	10.3		7.3	8.8		4.7	3.6	
Pangnirtung	7.9	4.3		0.8	0.5		0.5	0	

* Per 100 population, 1975. Inuvik and Pangnirtung, used as controls, did not change their alcohol control policies between 1974 and the end of 1977. Data for the Frobisher Bay-Inuvik comparison cover the period 1 April 1974-31 March 1977; for Rae-Edzo-Inuvik, 1 October 1974-30 September 1977; and for Fort Resolution-Pangnirtung, 1 April 1974-31 March 1976. Data for monthly periods were not available.

for driving while impaired is obvious for either area. Chi-square analyses were performed, comparing the rate of arrests in Frobisher Bay and Inuvik for the year preceding and the year following the change (in Frobisher Bay) and for 2 years preceding the change with the year following it. These analyses showed that arrest rates for drunkenness were lower in Frobisher Bay than in Inuvik for both the year before and the year after the change ($\chi^2 = 64.18, p < .05$) and for 2 years before and the year after ($\chi^2 = 67.35, p < .05$). Arrest rates for assault were significantly lower in Frobisher Bay than in Inuvik only when the year before and the year after the change were compared ($\chi^2 = 4.06, p < .05$). It is obvious that the decline in arrest rates for drunkenness (but not assault) came at least 1 year prior to the closing of the Frobisher Bay package store in April 1976.

The arrest rates in Rae-Edzo and Inuvik showed no striking differences before or after the change of policies in Rae-Edzo, and none of the differences between the year preceding and the year following the change were significant. Arrest rates for public drunkenness in Rae-Edzo during the year following the change were, in fact, substantially greater ($\chi^2 = 23.81, p < .05$) than in the period 2 years before, whereas in Inuvik they were essentially the same. A comparison of the arrest rates in Fort Resolution and Pangnirtung shows no striking differences before or after the change in policies in Fort Resolution. According to chi-square analyses, none of the differences between the rates for the year before and the year after the change were significant. As in Frobisher Bay, the decline in arrests for public drunkenness in Fort Resolution appeared to occur about a year before the change in alcohol control policy.

The results indicate that the changes in alcohol control policy had little effect in Rae-Edzo or Fort Resolution but considerable effect in Frobisher Bay, where arrest rates for public drunkenness and assault decreased markedly—and arrests for driving while impaired showed no change—immediately after the change in policy. An earlier study of liquor store strikes in Canada (5) also reported some effect on arrests for public drunkenness but none on arrests for driving while impaired. One possible explanation is that driving while impaired typically follows drinking in homes or bars, which would have been less affected by the closing of stores. However, arrests for public drunkenness, which generally follow drinking by Skid Row alcoholics in public places, would be affected by the change in policy.

The difference between Frobisher Bay and the other towns was predicted because it is the most isolated of the three areas studied. It is not on a road system, and when its package store closed, alcoholic beverages had to be imported by air or sea. The arrests for public drunkenness were already declining when the package store was closed, and arrests for assault were fluctuating but generally declining. Arrests for public drunkenness and assault showed an immediate reduction after the store's closing and later a return to a level approxi-

inating preclosing levels. Perhaps the public debate about alcohol problems in the Northwest Territories and the expected closing helped to generate more caution in drinking. It may be that more citizens will learn to use the rather slow and clumsy methods of the "booze charter," whereby a number of citizens get together, pool their orders for alcohol and charter a plane to bring it from the nearest liquor stores. Long binges often follow its arrival. If this is the case, the effects of the store's closing could be only temporary.

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control case—i.e., a country which is *not* "developing"—the Philippines turns out not only to have evaluations of jobs and occupations that correlate highly with the U.S. evaluations (and, indeed, also with the Pakistani evaluations) but also to exhibit strong economic growth as measured by index numbers of industrial production. Coefficients of rank correlation in the ratings of 15 occupations as between the Philippines and the U.S., Pakistan and the U.S., and the Philippines and Pakistan are +.965, +.875, and +.918 respectively—and all are significant at the one percent level.

CONCLUSIONS

For reasons which have been discussed throughout the paper, the conclusions which can be drawn from the data reported here (and from the analysis of them) are necessarily limited. We have found that in both Pakistan

and, for a smaller number of occupations, in the Philippines—both of which show clear evidence of vigorous economic development—there is strong similarity in the ways university students evaluate jobs and occupations and also that similarities exist between job and occupation ratings in each of them and the ratings of jobs and occupations made by a broader cross-section of the population of the United States, which we have taken as standard for an economically "developed" country. In the case of the rank ordering of 15 selected occupations, correlations were high and significant. This seems to support the proposition, though, again, it does not demonstrate it conclusively, that evaluations of jobs and occupations, at least by university students in developing countries, may be a useful measure of capacity for rapid modernization in terms of economic growth or development.

HOW BAFFIN ISLAND ESKIMO HAVE LEARNED TO USE ALCOHOL

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ABSTRACT

Eskimo in Frobisher Bay, a new Baffin Island town, became legally entitled to drink alcoholic beverages in 1960. They embraced the opportunity with alacrity, one result being many arrests for drunkenness. To curb drinking, a law in 1962 limited alcohol sales. Public drunkenness has since declined and older Eskimo have begun to learn a drinking pattern resembling that of their Eurocanadian neighbors. Eskimo drinking shows few signs of being deficiency motivated. Men drink for the pleasure it gives them and consumption correlates with economic and social status, being one of the marks of a full-fledged townsman. Regular drinkers furnish only a small part of the trouble with which police must cope.

INTRODUCTION

Only rarely do social scientists arrive on the scene of their study while a theoretically significant, or otherwise important, cultural experiment is in progress. We were thus fortunate in being able to learn about the end of one phase of alcoholic drinking and observe the start of another, while studying other aspects of the newly established white-Eskimo town of Frobisher Bay, Baffin Island, one of the largest urban centers in the Cana-

dian Arctic.¹ Here, where Eskimo culture is undergoing especially rapid and thoroughgoing

¹ Our six months field work in Frobisher Bay, from March through most of August, 1963, was supported contractually by the Northern Co-ordination and Research Centre, Department of Northern Affairs and National Resources, Canada. We owe much to many people for aiding us in our study of drinking, but here we acknowledge only the valuable cooperation extended by Mr. Harold Zuckerman, social worker, and Mrs. T. Allured, manager of the Territorial liquor store in Frobisher Bay.

evolution, we could reconstruct how a curious, intelligent, and adventurous people suddenly introduced to legal drinking at first eagerly embraced the new source of stimulation and then, aided by new laws and other forces of social control, partly recoiled. When we left them, they were in the process of devising another style of drinking, whose outlines we will describe, though without knowing how final it will be.

The Eskimo response to alcohol is theoretically significant for the student of human behavior because it helps to correct the undue emphasis consistently placed on stress and other deficiency motivations as explanations of drinking.² To reason that Eskimo rushed to use alcohol because it came to them simultaneously with stressful and wholesale, rapid culture change is to apply theory in a stereotyped fashion, quite without regard for facts. Contrary to what we heard before reaching Frobisher Bay, Eskimo culture change despite its rapid nature and far-reaching extent has not generally traumatized and disorganized the Eskimo who settled in that community. We began our research with the advice that drinking and offenses stemming from drinking represented two kinds of deviant responses to pervasive psychological stress but discovered drinking by Frobisher Bay Eskimo in general not to be primarily deficiency motivated.

Increasingly the anthropologist works in communities where the abundance of written records allows him to collect quantitative data. Of course, he can also build such precision into his field work by designing suitable methods to collect quantifiable data, though counting would be wasteful if his problem did not especially benefit from quantification. There is no virtue in counting for its own sake.

In Frobisher Bay, a town of about 2,000 persons where some 900 Eskimo have settled, administrative records are accumulating rapidly. They were ideal in allowing us to follow changes in response to an administrative order implicitly designed to control excessive drinking by Eskimo, who only two years previously had won the legal right to drink on the same

basis as their non-Eskimo peers in the Northwest Territories.

THE TOWN

The town itself, at the head of the Bay discovered in 1576, came into being in 1942 when the United States Air Force located a weather station nearby. In 1943 construction began on an air strip. After a temporary absence, United States Air Force personnel returned in 1951 and Frobisher Bay became an important site supporting shipment of military material to Thule, Greenland. In 1952 a renewed building program got underway, including construction of a radar station, and in 1955 the place became a center of activity for sending supplies and men to the eastern end of the D. E. W. line, then under construction. In that year Canada's Department of Northern Affairs and National Resources (D. N. A.) began construction of housing for government-employed Eskimo and non-Eskimo personnel. Since then many more houses have been built for Eskimo, some on a cooperative basis, and other facilities have been added. The place increasingly attracted south Baffin Island Eskimo, but the years of heaviest immigration came with the intensified construction of 1957, a year when the Eskimo population totalled about 500 persons.

Eskimo draw livelihood from four main sources: wage labor; full-time hunting and trapping (by a variable number of men, including those who rarely seek wage work and others who have temporarily lost jobs); home industries, including sewing and carving with stone imported from southern Quebec; social assistance, a source of income that runs high in winter for the unemployed and for full-time hunters, and the government-operated Rehabilitation Centre, which in part accommodates disabled Eskimo who have come from various parts of the eastern Arctic to learn new skills that will enable them to survive in their home settlements. Unable to return to a strenuous life on the land, rehabilitants must be prepared for less active careers. Other rehabilitants are social problems, including promiscuous girls whom the court recommended to the Centre. Eskimo live in three dispersed neighborhoods connected by a bus. In Apex Hill rehabilitants live together with most of the Eskimo who are employed by D. N. A. Here the largest and

² Cf. George D. Spindler, "Alcohol Symposium," *American Anthropologist*, 66 (1964), pp. 341-384.



most modern houses are to be found, including privately owned co-op dwellings. In Ikhaluit, where a number of full-time hunters live as well as Eskimo employed by other organizations, houses vary from self-made, multi-roomed shacks to prefabricated dwellings bought from the Government. At the air base—where eight Eskimo families live in an apartmentlike building next door to Eurocanadian neighbors—the government offices, airport, stores, and the main school are located. Non-Eskimo also live in Apex Hill.

Start of Legal Drinking

Prior to January, 1960, Frobisher Bay Eskimo saw or heard of their Eurocanadian military and civilian neighbors using alcohol, but only illegally could they themselves possess and consume it. Then, in 1960, in consequence of a far-reaching court decision that freed all Canadian Eskimo from discriminatory injunctions concerning drinking, they acquired precisely the same privileges as the white man.

They can go to the counter of the Territorial liquor store on any of several afternoons and evenings, show their permit, and order wine, rum, whiskey, gin, or beer (including ale). Nothing can be sold by the liquor store except to a permit holder. Almost any evening they can sit down in the Rustic Room, a hotel tavern, and drink beer or hard liquor.

What happened when alcohol at not too steep prices³ became legally available to Eskimo in Frobisher Bay? Records as well as knowledgeable informants agree that a number of Eskimo, both men and women, embraced the new opportunity with the same alacrity and enthusiasm they showed for other promising, new experiences. They purchased mostly beer and, lacking a tested pattern of drinking that would have regulated the speed and amount consumed at any one time, drank it without full awareness of consequences. The results are described as disastrous. For example, between 1959 and 1960, total court convictions (Eskimo and non-Eskimo) jumped from 53 to 155 and in 1961 reached 190,⁴ the overwhelming proportion of

³ In 1963 a bottle of good scotch whiskey cost \$6.75; a bottle of sherry, \$1.85; a dozen cans of beer, \$3.25.

⁴ Harold Zuckerman, "Report of the Use of Liquor by the Eskimo People at Frobisher Bay," typescript, 1962.

TABLE 1. NUMBER OF ESKIMO OFFENSES BY MONTH FROM DECEMBER, 1961 TO AUGUST 24, 1963 (21 MONTHS)*

Months	Liquor Offenses	Criminal Offenses	Other	Total
1961				
December	27	7	—	34
1962				
January	7	—	—	7
February	6	1	1	8
March	6	2	—	8
April	10	9	1	20
May	14	3	—	17
June	4	1	—	5
July	16	1	—	17
August	6	2	—	8
September	10	1	—	11
October	2	5	—	7
November	5	2	—	7
December	4	—	—	4
1963				
January	2	—	—	2
February	—	1	1	2
March	4	3	—	7
April	1	—	—	1
May	14	1	2	17
June	11	1	3	15
July	5	1	—	6
August	1	4	—	5
TOTAL	155	45	4	204

*Brackets cover comparable periods of time, from December to August.

persons convicted being Eskimo. Most of the arrests reportedly stemmed from offenses against the Territorial Liquor Ordinance, as they still do today. (Table 1) The increase in convictions far outran the increase in population, which rose from 624 Eskimo in 1958 to 761 in 1961. The social worker's report compares the first half of 1961 with 48 legal convictions, 40 of them Eskimo and six percent falling under the Liquor Ordinance, with the second half of that year when 68 persons were convicted, 65 of them Eskimo and 70 percent coming under the Ordinance. He estimates that over 90 percent of all offenses brought to court during the five years prior to March, 1962, stemmed wholly or partly from the "excessive use of alcohol." Violence is given as a specific "concomitant" of heavy drinking, including violence between spouses. Drinking also led adults to miss work, perform inadequately on the job, and eventually to lose their jobs and so miss payments on houses purchased from the government. Drinking promoted sexual promiscuity, sexual assault, and damage to houses,

cars, and garage doors. Due to guilt over drinking, he writes, people remained away from church, non-drinkers looking down on drinkers and making them feel unwelcome. Intoxication stimulated public disturbances and noise, frequently kept up till the early hours of the morning.⁵ The town took various measures to curb excessive drinking. Police vigilance, fines, and jail sentences constituted pressure to control alcoholic indulgence. The social worker complained that the Eskimo fails to learn from such punitive measures. When he tried case work with people who drank heavily, he found it to be effective for only short periods of time. Also, each Saturday afternoon a small number of men who drank heavily attended group meetings at which, sometimes, a doctor spoke on drinking or the men played cards and checkers. However, the welfare officer questioned the effectiveness of those meetings. Townspeople also received literature written in Eskimo, describing difficulties that could arise from excessive use of alcohol and explaining the relationship between drinking and offenses committed against the law. Sometime before March, 1962 the superintendent of the Rehabilitation Centre (a man fluent in Eskimo) helped write and produce six radio plays, most of which dealt with drinking and its connection with violence and other social problems. The local station aired the tape-recorded plays, which presented drinking with an unequivocally moral tone, giving drinkers and the tavern a disreputable air.

We did not manage to secure figures of actual alcoholic consumption going back to 1960, but we know that 71 licensed purchasers in a population of approximately 380 adults took, 6,588, 5,520, 3,516, and 4,200 twelve-ounce cans of beer from the liquor store in May, June, July, and August, 1962, respectively, not counting

⁵ Toshio Yatsushiro's manuscript notes obtained at Frobisher Bay and his paper, "The Changing Eskimo Economy," presented at the annual meeting of the American Anthropological Association in 1960 report drinking, theft, marital discord, deviant sexual behavior, gambling, and other signs of psychological strain and social disorganization to have been provoking concern as far back as 1958, that is, before even the legalization of drinking. He blames these behaviors on tension engulfing the Eskimo in their situation of extensive culture change.

what they drank or took home from the tavern. In addition they purchased 65 ounces of wine and spirits in May and 25 ounces both in July and August, 1962, from the liquor store, the only outlet from which wines and spirits could legally be ordered and paid for, to be picked up by the purchaser 3 weeks later.

An Administrative Order

Where educational and punitive measures to combat the Eskimo's enthusiastic response to alcohol reportedly proved discouraging, two measures administratively introduced in September, 1962, impress Eskimo and non-Eskimo observers as having been considerably more effective. Under the first regulation, the tavern could no longer sell beer to be taken off the premises. Under the second, customers at the liquor store had to wait three weeks before they could pick up their paid-for beer or any other alcoholic commodity. Although unpopular with some local Eurocanadians, who have circulated a petition to repeal the waiting period on beer, these measures have greatly pleased officials and police with the way they have apparently slowed down Eskimo drinking. Beer taken from the liquor store fell from 4,200 cans sold in August to 540 in September. In October, November, and December respectively, 71 licensed Eskimo purchasers took home from that outlet only 864, 1,188, and 1,140 cans of beer, but wines and spirits rose to 245, 750, and 565 ounces in those three months respectively. By May, June, and July, 1963, licensed purchasers had dropped to 32 and they carried home only 864, 1,032, and 660 cans of beer respectively and 190, 425, and 80 ounces of wines and spirits.

Public drunkenness also declined after September, 1962. Offenses against the Liquor Ordinance brought before the justice of the peace by the R. C. M. Police, which totaled 96 from December, 1961, to August, 1962, dropped to 42 between December, 1962 and August, 1963. (Table 1) Criminal offenses also fell, from 26 in the first period to 11 in the second period. Police and others connect these drops to the decline in excessive drinking. We rarely saw drunks abroad, so that the few intoxicated men who came late to the Saturday night dance (after an evening at the tavern) proved noteworthy.

Undoubtedly Eskimo have altered their use of alcohol, partly as a result of an administrative act and partly because they have decided not to make much use of the waiting period on beer and spirits. The decline in arrests, however, can't be confidently linked to the influence of the administrative order. There are other variables to be considered, about which it is difficult to secure any, much less precise, information. For example, did the police consciously or unconsciously relax their vigilance after the waiting period ensued for beer and the tavern ceased to make take-home sales? Another possibility, for which partial evidence will be presented later, is that Eskimo learned to modify their use of alcohol, drinking more cautiously. Some even ceased to drink, voluntarily and involuntarily. They learned not to make public appearances when they were intoxicated, the town's taxi system helping them get home from the tavern. The drinking pattern which we observed during our six months in Frobisher Bay differs considerably from the alarming pattern reported earlier. Even allowing for some degree of exaggeration in the earlier materials, evidence indicates that a change has occurred. To be safe, the dynamics of that change may be partly ascribed to more effective external regulations and advice and partly to personal learning.

Extending the waiting period to beer unquestionably reduced Eskimo patronage of the town's Territorial liquor store. We have comparable data on the number of Eskimo permit holders (all male) in the four months from April (when new annual permits become mandatory) to July 31, 1962—before the waiting period had been extended—and from April to July 25, 1963, after the waiting period. In the former four months, 78 Eskimo received permits from the liquor store; in the second, only 32. Apparently most permits are applied for close to the beginning of the permit year, that is, soon after April 1. We conclude this from the fact that between August 1, 1962, and March 31, 1963, only nine new permit holders joined the 78 who had received theirs between April and July, 1962. Presumably an equally small proportion of permit holders will be added to the 32 who got theirs prior to July 25, 1963, indicating a drop in store patronage by Eskimo.

Why have Eskimo failed to patronize the Territorial liquor store to the same extent after the waiting period began for beer as they did before? A western Arctic Eskimo could not explain why drinkers didn't order beverages three weeks in advance of delivery. He simply treated the idea as preposterous when he said people want to drink when they want to drink. In other words, for many Eskimo drinking is

TABLE 2. VALUE OF PURCHASES BY ESKIMO AT THE TERRITORIAL LIQUOR STORE BY MONTH, FROM JULY, 1962 TO JULY, 1963

Month	Remarks	Wine and Spirits	Beer	Total
1962				
July.....		\$ 0.00	\$ 952.25	\$ 952.25
August.....		0.00	1,137.50	1,137.50
September.....	Waiting period extended.	0.00	146.25	146.25
October.....		59.05*	234.00*	293.05
November.....	Purchases for Christmas season?	109.35	321.75	431.10
December.....	Purchases for Christmas season?	138.40	308.75	447.15
1963				
January.....		93.00	208.00	301.00
February.....	A murder occurred.	84.20	263.25	347.45
March.....	Effect of murder?	33.70	159.25	192.95
April.....		74.95	165.75	240.70
May.....		36.30	234.00	270.30
June.....		98.60	279.50	378.10
July.....	Summer vacations in coastal camps.	19.35	178.75	198.10
	TOTAL	\$824.90	\$4,589.00	\$5,413.90

*Note how beer sales dropped after the extension of the waiting period while wine and spirits sales rose.

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highly spontaneous. When it comes to alcoholic beverages, they do not anticipate wanting to drink three weeks hence. Unlike some whites, they do not keep liquor on hand to entertain guests. In fact they do little ceremonial drinking. Such behavior with respect to alcohol cannot be ascribed to an inability to plan or to a reluctance to project wants into the future, for Eskimo who leave town to spend vacations on the land do shop for the future. Even in town, families buy enough groceries at a time to last for several days. Also, some Eskimo have bought alcohol for delivery three weeks hence and continue to do so; undoubtedly more will learn to shop in this fashion, if they wish to drink at home or give a private party.

Table 2 (to which we will refer again) shows that extending the waiting period to beer sales brought a big drop in the amount of money Eskimo spent at the liquor store, especially for beer. The sale of wine and spirits rose somewhat after September, 1962 and for the next eight months continued to remain up, suggesting that the waiting period helped to alter drinking habits slightly. But we need more data to verify this hypothesis.

The Eskimo's Mode of Drinking

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Eurocanadian power and responsibility dominate Eskimo life in Frobisher Bay. Therefore, Eurocanadians ultimately control the flow of alcohol to Eskimo townsmen. Eurocanadians sell beverages; a federal government administrative officer acts as liquor inspector, and police enforce a Eurocanadian system of legal norms that specify where, how, and to whom alcohol may or may not be sold or given. In fact, those Eskimo who are concerned about drinking hold the Eurocanadian responsible for what they deem to be troubles promoted by alcohol.

Unlike Kwakiutl Indians, Frobisher Bay Eskimo do not drink to assert equality with whites nor do they flaunt scoff-law drinking at them.⁶ As a group these Eskimo do not have a seriously antagonistic or competitive relationship with Eurocanadians that would give such drinking point, nor are they hostile toward the police, as natives and Métis in the Mackenzie

⁶ Helen Codere, "The Amiable Side of Kwakiutl Life: The Potlatch and the Play Potlatch," *American Anthropologist*, 58 (1956), pp. 334-351; p. 497.

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Valley,⁷ though such attitudes may be forming in young men just quitting their teenage years. Alcohol compares with other sources of happiness that Eskimo can tap in Frobisher Bay. Their attitude toward it partakes of the same appreciation for town life that the people reserve for warm houses, movies, bingo games, the security of the Rehabilitation Centre, and the white man's food, especially candy and soda. Eskimo informants put the matter similarly. They say that people drink because it makes them feel good, or to become happy. We conclude that Eskimo drink to realize the effect of alcohol, to promote an optimal degree of intoxication, which instigates good feeling, relaxation, and a sense of gaiety. Some drinkers, though, are spoken of as "never happy when drunk" since they grow angry and violent.

Two views frequently reiterated in Frobisher Bay by administrators ascribe Eskimo drinking to boredom ("the people have little to occupy their free time") and to pressures imposed by town life and culture change, with which people cannot cope adequately and from which they seek escape. We see the Eskimo as far from bored in town and, as we have already said, Eskimo have successfully adjusted to their new life, welcoming rather than deploring many town conditions. Officials also view Eskimo drinking as "impulsive," but that word describes rather than explains; though it well explains why store purchases of beer declined following the three-week rule.

While Eskimo drink to realize happiness, ambivalently they also conceive of alcohol as bad and drunkenness as dangerous. They share the North American's traumatized, puritanical attitudes toward alcohol, attitudes that picture drinking as a special category of behavior because it is fraught with menace or commotes depravity. Extremists, of course, hold that any amount of drinking is sinful—and we met such people in Frobisher Bay—Eurocanadians and

⁷ Ronald Cohen, *An Anthropological Survey of Communities in the Mackenzie-Slave Lake Region of Canada*, Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre, Publication NCRC-62-3 (1962), p. 84; Donald H. J. Clairmont, *Deviance Among Indians and Eskimos in Akluvik, N. W. T.*, Department of Northern Affairs and National Resources, Northern Co-ordination and Research Centre, Publication NCRC-63-9 (1963), p. 54.

Eskimo. More moderate people warn about the danger of alcohol to children, to drivers, and for addiction; they fear lest it unloose latent sexual and aggressive impulses. In some degree, every Eskimo, moderate, social drinker probably carries these attitudes. Presumably, they enable a moderate drinker to regulate the amount he takes at any one time. In the tavern one night a man reported that a friend, a professional hunter, had warned him that after ten years or so of heavy drinking his hands would become too shaky to hold a gun steadily and so he would have to cease hunting. One night in the tavern, an Eskimo relaxed by considerable beer described somebody else as "a very good man," one reason being that he never drank. A stereotype in Eskimo ideology connects drinking with violent aggression. People blame it for a murder that took place in 1963. At a meeting of the Community Council in June, 1962, the Eskimo chairman described liquor and excessive Eskimo drinking as the worst problem confronting Frobisher Bay. (Incidentally, the Council chairman drinks socially. At his 1962 Christmas party, to which he invited many kinsmen and of which we saw movies, he served champagne.)

Unfavorable attitudes toward alcohol, reinforced by fear of arrest and by the undisguised reproaches with which some Eurocanadians greet Eskimo who drink too much, help Eskimo to regulate their own drinking. A frequent drinker, who is also an elected member of the Community Council, told us that he drinks only until he is a little happy, but doesn't go beyond that. He added that drinking beyond a safe point results in violence. A western Arctic Eskimo said he directly encourages more men to adopt such self-regulation. People in Frobisher Bay, he explained, have not had a chance to observe the style of drinking that goes on "at the Lord Elgin" (a popular hotel in Ottawa) but only the kind that construction workers do.

As part of Eskimo's more general readiness to allocate responsibility to Eurocanadians, most Eskimo quite willingly allow Eurocanadians to regulate their drinking. They accept the waiter's refusal to serve them with more beer once they are already intoxicated. No Eskimo openly disapproved of the three-week waiting period for beer, and some drinkers approved it. A few persons have even asked

the welfare officer to inform the tavern owner not to serve them when they go there. One Eskimo employee allows his white supervisor to give him a note to the innkeeper on nights when he need not go on duty. There are a few Eskimo who voluntarily appealed to the court for interdiction.

Sources of Alcohol

Eskimo drinkers secure practically all their alcoholic beverages from two local outlets, the government-owned liquor store—from which no beverage moves except to a permit holder—and the government-licensed tavern.

Despite organized opposition by a pressure group, in which a few Eskimo aligned themselves with a few Eurocanadians, the Territorial liquor store began business in September, 1961, serving only permit holders.⁸ Most Eskimo permit holders during the period under survey have been mature men. (Table 3) Mature men and heads of families are in the best position to afford alcoholic beverages, for they hold the steady jobs. Such data support the interpretation that alcoholic drinking in Frobisher Bay is not primarily motivated by deficiency needs, like stress induced through drastic culture change.

Most permit holders actively use them. Seventy-two out of 87 used their 1962-1963 permits, and all 32 who received 1963-1964 permits by July 25, 1963, had used theirs by that date. Mostly they use their permits to buy beer. The strategic significance of extending the three-week waiting period to beer may once more be gauged from the fact that only 30, or 42 percent, of the 72 Eskimo who used their permits in

⁸ Volume of sales by the liquor store favors non-Eskimo. Out of 2,218 dozen cans of beer sold from January to July, 1963, 1,760 dozen cans (or 79 percent of the total) went to non-Eskimo and 458 to Eskimo, although non-Eskimo adults don't exceed Eskimo adults in the town population by any such proportion. Undoubtedly non-Eskimo bought far more wines and especially spirits than Eskimo, who rarely buy such alcoholic beverages. Total beverage sales in Frobisher Bay amounted to \$180,735.85 in 1962-63, according to the *Annual Report, Commissioner of the Northwest Territories, 1962-63*, p. 19. Between July, 1962, and July, 1963, 74 Eskimo permit holders spent a total of \$5,413.90 at the liquor store, an average of \$73.16 each. Of course, many drinkers undoubtedly frequented the tavern and spent additional money, of which we have no record.

TABLE 3. AGE DISTRIBUTION OF ESKIMO WHO BOUGHT ALCOHOLIC BEVERAGES FROM GOVERNMENT LIQUOR STORE (APRIL 1, 1962 TO JULY, 1963)

Age Category	Number
20-24.....	11
25-29.....	15
30-34.....	17
35-39.....	8
40-44.....	11
45-49.....	4
50-54.....	3
55-59.....	1
Unknown.....	4
TOTAL.....	74

*Twenty-one is the minimum age for securing a permit.

1962-63 bought any wine and spirits (and hence waited three weeks to pick up their paid-for orders); 71 out of the 72 permit users bought some beer. Up to July 25, 1963, only 13 of 32 Eskimo with permits (about the same proportion) bought wine and spirits and 30 bought some beer. However, the volume of wine and spirits sold is over what it was before the waiting period began for beer, amounting to 405, 460, 140, 425, 190, 425, and 80 ounces in the first seven months of 1963 respectively.

Table 2 indicates how Eskimo liquor buying fluctuates from month to month and, apparently, from season to season. We are not sure why, but one reason may be that Eskimo lack a firm pattern of social drinking, which would keep fairly steady the amount and type of alcoholic beverages consumed from month to month. We list other possible reasons under the column headed "Remarks" but cannot at this time test those hunches with concrete data. One hypothesis we did manage partly to test. We reasoned that November buying was a consequence of the approaching holiday season. If this were true, then heavy sales would cluster toward the end of that month. Available data for wines and spirits bear this out. Mainly, though, it turns out that a few sophisticated individuals (who undoubtedly had Christmas in mind) did much of the late November wine and spirit buying. The Community Council chairman, for example, spent \$20.00 on 4 bottles of champagne and another \$46.00 for assorted wine, whiskey, rum, and liqueur. We lack precise enough data to test the hypothesis with beer buying. 41 SES → 41 CONS. (8)

TABLE 4. AMOUNTS SPENT AT THE TERRITORY LIQUOR STORE BY ESKIMO PURCHASERS, FROM JULY 1962 TO JULY, 1963

Number of Purchasers	Total Amount Spent
1.....	\$275-\$299
1.....	250- 274
1.....	225- 249
4.....	200- 224
.....	175- 199
2.....	150- 174
4.....	125- 149
5.....	100- 124
11.....	75- 99
7.....	50- 74
19.....	25- 49
19.....	0- 24
74.....	

Table 4 shows considerable variation among the liquor purchasers. Some men spent as little as \$6.50 in the 13-month period; one went as high as \$299.60 in his purchases. Over half the purchasers spent less than \$50.00.

If we categorize the Eskimo permit users as either high or low purchasers, and define a high purchaser as someone who spent above the average (\$73.16), then we count 29 high purchasers. We can match these with 29 individuals selected simply because they fall at the opposite end of the scale, having spent the smallest amounts at the liquor store. The two categories diverge in certain social characteristics as Table 5 demonstrates. High purchasers, who may live in Apex Hill, Ikhaluit, or at the airbase, are most often steadily employed, wage-earning heads of families in their 30's and early 40's. The Eskimo community's leaders are well represented among high purchasers. Generalizing, we can say that the high purchasers are men who have closely assimilated town life. Tutelage has made them familiar with the liquor store and even with deferred buying of alcohol, for note that in this category only eight permit holders failed to renew their permits in 1963, after the waiting period had begun for beer, while low purchasers failed to renew their permits. High purchasers show somewhat better ability to drink and yet stay out of trouble. Between late 1961 and 1963 they appeared in court less frequently than low purchasers. Although drinking undoubtedly encourages offenses against the law (specifically against the Liquor Ordinance), the 14 high

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TABLE 5. COMPARISON BETWEEN 20 "HIGH" AND 20 "LOW" ESKIMO PURCHASERS AT THE TERRITORIAL LIQUOR STORE FROM JULY, 1962 TO JULY, 1963*

	High Purchasers	Low Purchasers
Status		
Heads of families (male).....	27	19
Unmarried men.....	1	8
Women.....	1	2
Other.....	1	2
Average age.....	36	29
Employment		
Steadily employed.....	20	8
Fairly steadily employed.....	1	2
Irregularly employed.....	5	10
No employment record.....	3	5
Rehabilitants.....	—	2
Other.....	—	2
Social assistance		
Received welfare during 7 sample months in 1962-1963.....	3	7
Purchased liquor during months they received welfare payments.....	2	—
Liquor permit holders		
1962-1963.....	29	27
1963-1964.....	21	7
Law offenders (between Dec., 1961 and August, 1963)		
Under Liquor Ordinance.....	12**	10***
Under Criminal Code.....	6**	6***
No Offenses.....	14	9
Neighborhood of residence		
Apex Hill.....	12	13
Airbase.....	3	—
Ikhiluit.....	13	15
Other.....	1	1

*High purchasers are men who spent more than the average of \$73.16 in the 12-month period; they spent from \$71 to \$300. Low purchasers are men who spent the smallest amounts, from \$9 to \$30.

**Three people were charged under both the Liquor Ordinance and the Criminal Code.

***Five people were charged under both the Liquor Ordinance and the Criminal Code.

purchasers who have no offenses recorded against them demonstrate that Eskimo can drink, and even fairly regularly, without committing offenses that attract police attention.

Low purchasers manifest greater heterogeneity. Again heads of families predominate but the category includes more younger, unmarried men. Low purchasers have spottier employment records and enjoy steady employment less frequently; as a result they also earn less wages. Low purchasers include two rehabilitants and over twice as many men who received social assistance during seven sample months than appear among high spenders.

Only one low purchaser ranks as a leader, being an elected member of the Community Council from Ikhiluit.

Judging from these data (they refer only to purchases at the liquor store and don't take account of liquor consumed at the tavern), alcohol consumption correlates directly with economic and social status: it is one mark of a full-fledged Eskimo townsman. The data offer no basis for ascribing most drinking to deficiency motives. We would expect that as employment opportunities and standard of living increase, so will liquor consumption. After all, the same thing has happened in Europe and among other Americans in Canada and the United States.

Many high purchasers at the liquor store also frequent the Rustic Room tavern, with at least one notable exception: the most sophisticated men in the community (for example, those who bought Christmas liquor), who also happen to be high store purchasers, don't regularly frequent the tavern. Also, whereas no woman holds a permit to buy at the store, women of all ages visit the tavern, though always there are many fewer women present than men. We must also add that only one member of the Church Council, holds a liquor permit; he is one of the high purchasers, but drinks socially and in moderation. The Church Council is an elite group. We never saw a known Church Council member in the Rustic Room.

We counted 16 Eskimo men and two women as people whom we identified as steady tavern-goers. All the men are family heads. The women in question regularly accompany their husbands. Most of the men in this category also hold or held liquor permits, only two failed to renew in 1963 after the waiting period had begun for beer. Men who frequently avail themselves of one liquor outlet also steadily utilize the other, 12 of the 16 steady taverngoers proving to be high purchasers at the liquor store. As we would expect, since a secure income alone can support steady patronage of both liquor outlets, steady tavern drinkers who are men mostly hold steady jobs. One steady male taverngoer has no regular source of income and another lives in the Rehabilitation Centre, where he earns auxiliary income through

* Ronald Cohen, *op. cit.*, p. 100, predicts the same.

carving on his own account. Two of the steady male tavern visitors and one woman are elected members of the Community Council. Between December, 1961 and August, 1963, out of 18 steady taverngoers, nine have been charged under the Liquor Ordinance; four have been charged under the Criminal Code; eight have not been charged with any offense. All offenders and nonoffenders total over 18 because three persons have been charged both with offenses under the Liquor Ordinance and under the Criminal Code.

Among 28 men and women whom we have seen drinking in the Rustic Room, but whom we would call occasional rather than steady taverngoers, we note six rehabilitants (including three girls over 21) and a large proportion of young men and women. About 15 women occasionally visited the tavern.

We have already noted that some but by no means all heavy spenders at the liquor store and steady taverngoers have committed offenses for which they were apprehended by police.

We counted 29 heavy purchasers and an additional six steady taverngoers, making 35 so-called regular Eskimo drinkers. Police arrested 17 of these at least once in the 21 months from December, 1961, to August 24, 1963. The other 18 show no arrest record in that period.

Regular drinkers in fact furnish only a small part of the trouble with which police cope. Police apprehended a total of 97 persons in those 21 months, 17 of them being persons categorized by us in 1963 as regular drinkers. By our criteria, 78 of the 97 persons arrested are occasional drinkers. It is interesting that practically no non-drinkers got into trouble, but since most arrests were for offenses coming under the Liquor Ordinance (Table 1), this discovery is not really very significant.

In Aklavik, Clairmont¹⁰ sees "excessive drinking" to be "largely a problem among the younger settlement natives," i.e., those between 16 and 29. This finding supports his hypothesis that excessive drinking in Aklavik forms one delinquent response to strain, that age category, in Clairmont's opinion, being especially highly stressed. We cannot readily use his largely unspecified criteria and identify "excessive" drinkers in Frobisher Bay, but if

TABLE 6. AGE DISTRIBUTION AND ARREST RECORD, REGULAR DRINKERS*

Age Category	Number of Regular Drinkers	Number of Regulars Arrested Between December, 1961 and August 24, 1963
20-24	1	1
25-29	6	1
30-34	8	4
35-39	7	6
40-44	6	2
45-49	3	3
50-54	3	—
Over 55	1	—
TOTAL	35	17

*Regular drinkers are defined as those who spent more than the average at the liquor store and/or visited the tavern frequently.

we take the regular drinkers of legal age, they do not mostly come from the younger age levels, as Clairmont also finds (Table 6). Unfortunately we also cannot say much about illicit drinking by young people under 20, though undoubtedly it occurs and often escapes police attention. Our records show only one Eskimo of both sexes under 20 to have been arrested for any cause in 21 months from December, 1961 to August 25, 1963. The exception accounts for about eight percent of all persons arrested for any cause in that interval. Seven of the eight persons were arrested for liquor offenses. If we take arrests rather than persons arrested, then 14 out of a total of 204 arrested persons under 20—that is, seven percent. In Aklavik, 22 percent of all men arrested for liquor offenses only in the 11 months from August, 1960 to June, 1961 were under 20. While the figures are not precisely comparable, it appears more than likely that police in Aklavik, for whatever reason, apprehend youthful drinking offenders more often than police in Frobisher Bay. One plausible inference is that younger people in the longer settled western Arctic town experience more difficulty with respect to illicit drinking than do the age mates in the newer town of Frobisher Bay. They may also do more drinking, perhaps as a result of being more highly stressed, as Clairmont assumes.

In Frobisher Bay, as older people learned to drink in ways that render them less likely to be picked up by the police for liquor offenses, younger people have come to form a larger proportion of the people attracting police attention.

¹⁰ Donald H. J. Clairmont, *op. cit.*, p. 58.

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liquor and other offenses. From constituting six percent of all offenders in the 13 months from December, 1961 to December, 1962, offenders under 20 have mounted to 12 percent in the eight months from January to August 25, 1963. However, in absolute numbers there has been no increase in the number of offenders in this age group.

CONCLUSIONS

Although our data fail to confirm allegations that Frobisher Bay is a highly disorganized community, a number of administrators locally and in Ottawa, as well as other commentators quoted in the Canadian press, still view the community as manifesting serious alcohol and other problems. Apprehension concerning

drinking, we have shown, exists in Eskimo themselves and constitutes one factor that helps them to control their alcoholic intake. From exuberant and relatively unpatterned drinking following the legalization of alcoholic sales to Eskimo, the people have adopted a relatively rational use of alcohol, aided by administrative regulations. The regular Eskimo drinkers are among the most stable and sophisticated element of the town's native population, being regular jobholders and in other respects full-fledged townsmen. They have learned to drink and to stay out of trouble. We have indications that the rising generation of adults experiences somewhat greater trouble with respect to drinking. How the next generation of townsmen will adjust to alcohol remains to be seen.

PERCEPTIONS REGARDING VALUES AND LEGITIMATE OPPORTUNITIES AND NORMS

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* The total project was supported by a grant from the Ojibwa Research Project, Reckless.

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KAVA IN THE NORTH.

**A study of kava in Arnhem Land
Aboriginal Communities**

Kerryn Alexander

**Australian National University
North Australia Research Unit**

Monograph

Darwin 1985

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Introduction

A refreshing astringent drink which produces nothing more than a tingling sensation in the mucous membranes of the mouth and a short-lived numbness of the tongue (Holmes, 1979a, 107).

Kava has medicinal qualities of not a little power. Drunk to excess it acts like opium, and the habit once formed cannot easily be broken....The habitual kava drinker may be recognised by his fishy-looking eyes and the scaly appearance of his skin (Adams, 1890, 117-20).

Since early European travellers first came into contact with kava, there have been major discrepancies in descriptions of the kava drinking experience. Reported effects range from references to kava as a powerful habit forming drug, to a substance that produces a mild but pleasant state of tranquillity. This controversy continues to exist with the current use of kava in Arnhem Land Aboriginal Communities. Some people associated with these communities support and encourage kava use, while others are totally opposed to it. Many uninformed rumours are circulating concerning the physical properties, medical effects and contemporary uses of kava in Arnhem Land.

This paper provides factual information on kava's chemical and pharmacological properties, refers to its use in the South Pacific and outlines factors concerning its current use in Arnhem Land Aboriginal communities.

WHAT IS KAVA?

Physical description

Kava is prepared from the plant Piper methysticum forst, a tropical shrub of the family Piperacea (Pepper). The generic name Piper comes from the Latin for pepper and the species name methysticum from a Greek word meaning intoxicant. The plant has thus become known as the intoxicating pepper (Shulgin, 1973).

Piper methysticum grows naturally throughout Melanesia, Polynesia and Micronesia and is cultivated for domestic use on many islands in this region (Hansel, 1968). Its characteristic features are long stemmed, heart shaped leaves, knotty branches and small flowers (Gatty, 1956). The part used to make kava is generally the rhizome (the bulky root stock) or the fine root system, with in some cases, the base of the stem being used. Plates 1 and 2 show young plants, plate 3 an older larger plant and plate 4 the roots of Piper methysticum.

Preparation of the kava beverage

The methods for preparing the kava plant for drinking fall into two main categories.

Fresh root methods

The methods traditionally used throughout the Pacific involve the chewing, grating or pounding of the fresh root until fine and fibrous. The chewed or shredded root is then soaked in water, strained and drunk.

Dried root methods

The root or other plant matter to be used is dried and pulverised. The powder is then wrapped in cloth and infused in water, much like a giant tea bag. This is the method of preparation most widely practised today. In several countries, the powder is produced commercially and sold in small bags.

With both methods, the beverage is usually mixed in a large bowl and shared by a group of drinkers using a single cup. The chewed, fresh kava preparation is reported to be far more potent than the grated, pounded or dried kava. The increased potency has been attributed to a chemical transformation induced by the action of saliva on the plant matter.



Plate 1: Young Piper methysticum plant



Plate 2: Young kava plants in a village garden



Plate 3: Full grown kava plant



Plate 4: Roots of kava for sale in village market

This has not, however, been scientifically proven (Gregory et al., 1981). Other factors affecting the strength or potency of the kava beverage are outlined below.

The variety of the plant used. A number of varieties of Piper methysticum have been identified and are said to vary widely in their pharmacological characteristics. Vanuatu kava is reported to have the highest concentration of active ingredients of all varieties so far tested (Ellis, 1984a).

The portion of the plant used. Fijian kava, the type frequently used in Arnhem Land, has different grades depending on the part of the plant used. Kasa is the lowest grade, made from the plant stem. Lawena is prepared from the rhizome (main part of the root). Waka is the strongest grade made from the fine root system and the type most frequently used in Arnhem Land (Fiji Markets, Sydney, pers. comm.).

The soil in which the plant is grown. Active principles in any plant vary enormously with respect to the soil in which they are grown (Efron et al., 1979).

Degree of dilution of beverage. The amount of kava used per unit of water varies considerably from place to place. In Fiji, the amount of powdered kava used to produce a bowl of many servings is less than what would be used of the Vanuatu fresh root to produce one to two cups to be consumed by a single individual (Holmes, 1979b).

The pattern of use. Kava drinking may or may not accompany the consumption of food. It may be taken at different times of the day and in different quantities. All these factors affect its absorption into the body and its resultant effects.

The cultural context and expectation effects on the drinker. The cultural context, religious and secular sanctions and the behaviour of other kava drinkers all influence the amount of kava taken by a given individual and the way that it will affect him or her. Those who expect or desire intoxicating effects are likely to experience them (Holmes, 1979b).

These variables make it extremely difficult to establish a 'usual' or 'normal' level at which kava is consumed. As discussed below, the way kava is used by a community has been traditionally controlled by the cultural context in which it has evolved.

Chemical and pharmacological properties

Several investigations of the chemical and pharmacological properties of kava have been conducted (Hansel, 1968; Shulgin, 1973; Klohs, 1979; Meyer, 1979). The active chemical constituents have been determined as a series of approximately twelve -pyrones, which are referred to as kava pyrones or kava lactones. The chemical structure of the kava pyrones is described by Shulgin (1973) and Klohs (1979). All the pyrones are physiologically active, their differences being quantitative rather than qualitative in nature.

Extensive animal studies have been conducted to determine the pharmacological properties of both the isolated chemicals, and the total extract of Piper methysticum (Meyer, 1979; Singh, 1983). The results of these studies are confirmed when the extracted chemical compounds are given to humans (Pfeiffer et al., 1979). The major pharmacological actions of kava are as follows:

mild, centrally acting relaxant properties which induce generalised muscle relaxation and ultimately a deep natural sleep, and

local anaesthetic properties which are experienced as a numbing of the mucous membranes of the mouth and tongue when the beverage is drunk.

Despite these consistent findings, little agreement exists as to the pharmacological classification of kava. Although its actions are characteristic of a sedative, its use is social rather than individual and it leads to conviviality rather than to escape (Shulgin, 1973). It has been concluded, however, that kava's sedative/relaxant properties are relatively mild - 'compared to the modern synthetic central relaxants, all of the kava congeners (active chemical constituents) are relatively inactive' (Pfeiffer et al., 1979, 160).

It should be noted that no pharmacological studies have been published which assess the effects of the widely used powdered kava preparation on humans.

Both medical and anecdotal reports suggest that frequent and heavy kava consumption may cause further physiological effects. References to dry or flaky skin in regular kava drinkers appear throughout the literature (Gatty, 1956; Finau et al., 1982). The most thorough description of a kava caused skin condition, termed kani, is documented in the Fiji Medical

Journal (Frater, 1976). Kani is characterised by a pattern of light and dark bands on the skin, the light bands being smooth and the dark bands, rough and scaly. The following points are relevant to the expression of the condition:

regular (almost daily) drinking of kava is necessary before it appears, the period varying from months to a year or more;

kani is more readily seen in dry weather than when the humidity is high;

it is most likely that kani results from a vitamin B deficiency attributed to the influence of kava on body metabolism, and

the condition is cured when kava drinking is reduced.

A discolouration, or yellowing of the skin, is also associated with the consumption of large quantities of fresh kava (Pfeiffer *et al.*, 1979). Two yellow pigment materials have been isolated from the plant which provide an explanation for this phenomenon (Shulgin, 1973).

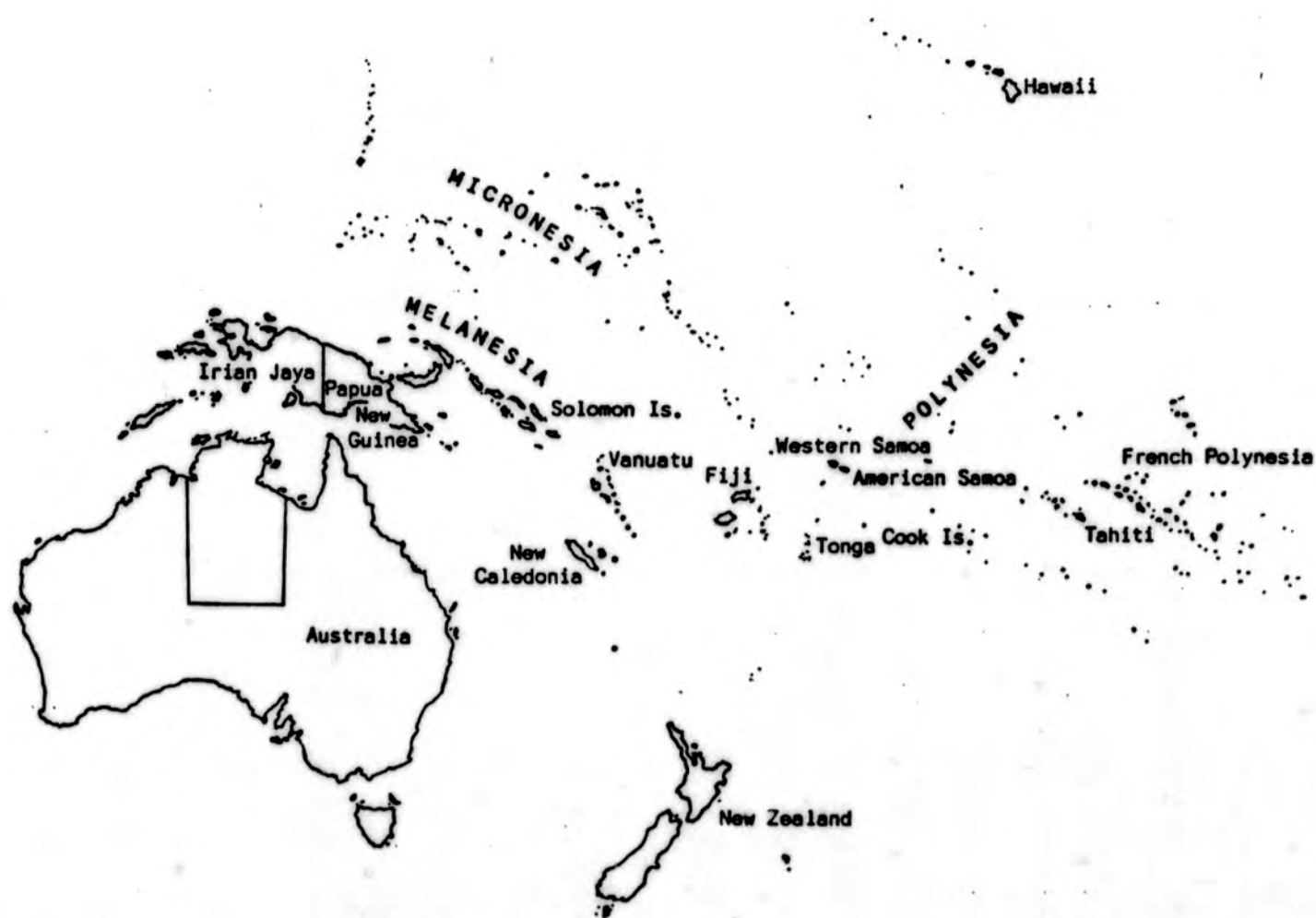
Reports from early missionaries and explorers in the Pacific maintained that heavy consumption of fresh kava paralysed the legs, making it difficult to walk (Holmes, 1979b). Similarly, recent animal studies indicate that large doses of the chemical compounds isolated from kava, produce ataxia and ascending paralysis, followed by complete recovery (Meyer, 1979). A paralysing effect has not, however, been adequately demonstrated in humans drinking the kava beverage. In fact, any numbness of the legs has been accounted for by the associated habit of sitting cross-legged during long kava drinking sessions (Shulgin, 1973).

Owing to its chemical and pharmacological properties, kava has numerous medicinal uses, including analgesic, anticonvulsant, fungicidal, antiseptic and diuretic properties. It has been used as a traditional medicine in many parts of the Pacific for centuries. The European pharmaceutical industry also has a steady demand for kava. For example, it is used in preparations which have been produced and sold in Europe for about 20 years, such as Kavaise for infections of the urogenital system (Ellis, 1984).

HOW KAVA IS USED IN THE SOUTH PACIFIC

Extent of kava use

Two indigenous ethnic groups occupy the islands of the Pacific. The dark skinned Melanesians inhabit the area bounded to the North by New Guinea and the Solomon Islands, on the east



Map 1: The Pacific Regions in which kava has traditionally been used

by Vanuatu and Fiji and to the south by New Zealand, whose population, however, does not belong to this group. The second group is that of the Polynesians and Micronesians with lighter skins. They inhabit the islands to the east and north of those mentioned above and others scattered in the Pacific including Samoa, Tonga and Hawaii. Although the kava plant exists throughout these regions, its use as a beverage is most well documented in Fiji, Samoa, Tonga and Vanuatu where it is variously known as kava, kawa, kava-kava, ava and yagona (Lewin, 1931). Map 1 illustrates the Pacific region in which kava has been traditionally used.

The custom of drinking kava has been practised in the Pacific Islands for many centuries. It is an integral part of traditional and contemporary life throughout the Pacific, although regional differences occur in the style of preparation, sanctions surrounding its use and other culturally based factors.

Kava is used in ceremonies, to welcome visitors, at formal gatherings, initiation or completion of work, validation of titles, celebrations of marriages, births and deaths, to cure illnesses and remove curses, and as a means of making contact with the supernatural, in fact in almost all phases of life (Singh, 1983).

Traditional use of kava

The importance of kava in the traditional life of the Melanesians and Polynesians is reported throughout the anthropological literature (Efron *et al.*, 1979; Lewin, 1931). Its cultural status and meaning are explained by many of the historical stories, myths and legends of the people.

These stories also serve to place sanctions on its use. For example, a Samoan myth describes how kava was given to people by the gods. This story presents rules for the correct ceremony, seating arrangements, taking of food and reverence required of children when kava is used. These traditional kava drinking practices are intimately related to indigenous religious practices and village social and political organisation in Samoa (Holmes, 1979a; Brown, 1984).

A similar legend outlines the first appearance of kava in Tonga. This story also emphasizes the important traditional and cultural role of kava in Tongan society (Gatty, 1956).

The way in which kava use is traditionally integrated into the lives of the Pacific Islanders is well illustrated by its use in Tanna, Vanuatu (Gregory *et al.*, 1981). On Tanna, fresh kava is consumed daily at sunset by almost all the adult men. Strict rules govern the places where kava may be consumed, the exclusion of women and children, the quantity of kava consumed, and behaviour following kava consumption - 'kava time'.

The following examples illustrate some of the ways in which kava use is linked to a wide range of Tannese activities and behaviour, both religious and secular.

Sanctions against women drinking kava or even witnessing a kava ceremony contribute to the delineation of male/female roles.

The congregation of men at the nakamal (kava meeting place) at dusk is an important time to meet and exchange news.

Once prepared and drunk the 'kava time' is a time for quiet and solitude. The kava facilitates meditation, problem solving and communication with the gods. In this way kava is said to be 'like a prayer'.

Contemporary use of kava

In recent times, kava use in the Pacific has assumed a wider and more secular role alongside its traditional and ceremonial uses, particularly in urban areas. In many places it is accepted as a social activity in much the same way as drinking tea or coffee in our society. The extent of the social use of kava is illustrated by the following examples (Holmes, 1979a; Ellis, 1984a):

urban centre in Fiji, Samoa and Vanuatu have kava clubs or saloons where kava may be drunk during a work break or as a social activity at the end of the day;

government offices are reported to have kava prepared for their employees each morning; and

the processed powdered form of kava is commercially available in most towns, and is widely used by the local people.

Despite the widespread use of kava throughout Pacific towns and villages, there is surprisingly little reference in any of the available literature to negative effects of kava drinking.

The meaning of kava

Kava has become a symbol of traditional culture and independence in Pacific countries such as Tonga, Samoa and Vanuatu which are struggling to maintain their identity in the face of increasing westernisation (Holmes, 1979a; Gajdusek, 1979). This contemporary meaning associated with kava drinking has several elements. Historically, kava has been associated with a reluctance to become involved in mission or government

instigated activities. The missions and colonial governments attempted to prohibit kava use because of its important political and religious role in indigenous society. As a consequence kava drinking boomed. In Tongariki, Vanuatu, for example, kava drinking reached faddish proportions in terms of the number of drinkers and frequency of their use of kava. This anarchical use of the beverage without respect for traditional sanctions has been interpreted as a direct reaction against the power of the missions (Gregory *et al.*, 1981; Gajdusek, 1979). A similar cult emerged on Tanna, Vanuatu. There, a cult leader, Jon Frum, advocated a return to the villages, the use of kava, and other traditional practices which had been outlawed by the missions. The popularity of the Jon Frum cult led to the rapid widespread use of kava drinking outside of prescribed customs (Gregory *et al.*, 1981; Guart, 1956).

More recently, kava use has become a wider symbol of Pacific identity. It can be conceived of as being part of the 'Melanesian Renaissance', a term used to refer to the recent encouraging by Pacific nations of their traditional ways of life such as ceremonies, dances and songs, in which kava plays a central role (Keith-Ried, 1984). Kava use is now sanctioned by both churches and governments as an important and worthwhile practice.

HOW IS KAVA USED IN ARNHEM LAND?

The introduction of kava

Kava was introduced to Arnhem Land via the Yirrkala community, near Nhulunbuy, in early 1982. During late 1981 and early 1982, the Uniting Church Aboriginal Advisory and Development Services (AADS) Community Worker at Yirrkala, a Fijian, took a group of leading Yirrkala men to Fiji to observe customary life and village development. These men saw kava being used socially and were also invited to join in village discussions involving the ceremonial use of kava. The Yirrkala men were impressed by the way in which kava was used in Fiji and brought an initial supply back to Australia. They then arranged to obtain supplies of kava so they could use it regularly. During late 1982, the Waruwi (Goulburn Island) AADS Community Worker, also a Fijian, took some Waruwi men to Yirrkala to discuss the organisation of their Homeland Resource Centre. The men were invited to join in discussions over the drinking of kava. They returned impressed and requested their community worker to arrange supplies of kava for Waruwi (Downing, 1985; Hoyles, 1982). The use of kava has now spread to most other Arnhem Land communities. It should be noted that, although the presence of Fijian and other Pacific Islander community workers facilitated the introduction of kava into Arnhem Land, it was the Aboriginal people themselves who requested and encouraged its use.

There are a number of reasons why kava use has spread so quickly through Arnhem Land:

some Aboriginal and non-Aboriginal people involved with the communities have encouraged the use of kava as a substitute for alcohol;

the kava bowl is seen as an excellent focal point around which discussions can take place. This is particularly relevant as group meetings are an important means of information sharing and decision making in Aboriginal communities and

kava drinking provides an opportunity for fellowship of a type similar to sharing a carton of beer or flagon of wine. This is particularly significant in those communities where alcohol is prohibited, as groups seeking the fellowship associated with alcohol consumption were previously obliged to visit hotels situated some considerable distance from the community (Hoyles, 1982).

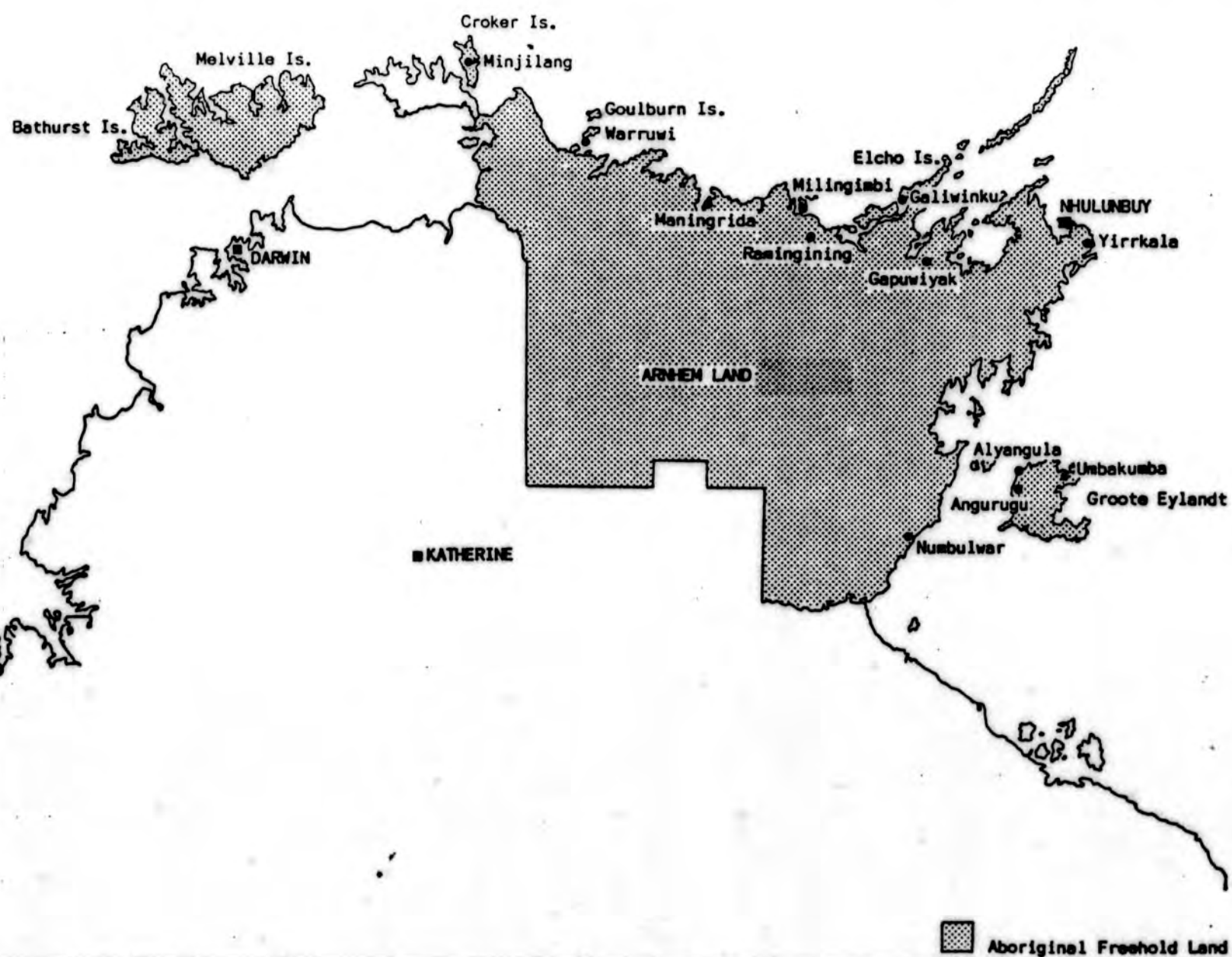
Geographic extent of kava use

Kava use in Northern Territory Aboriginal communities is currently confined to Arnhem Land. Its use extends as far west as Minjilang (Croker Island), in the communities across the north coast - Waruwi (Goulburn Island), Maningrida, Milingimbi, Ramingining, Galiwin'ku (Elcho Island), Gapuwiyak (Lake Evella), Nhulunbuy and Yirrkala and, to a limited extent, to the east at Numbulwar and communities on Groote Eylandt. Some of the inland and coastal outstations also receive kava supplies. Map 2 illustrates the Arnhem Land region where kava is currently used.

So far, use of kava does not appear to have extended to Aboriginal communities outside this region in the Northern Territory. It is used, however, by Aboriginal and Pacific Islander groups and others in Darwin.

The supply of kava to Arnhem Land

Commercially produced, powdered kava is legally imported into Australia from Pacific Island countries such as Fiji and Tonga. Most kava supplies to Arnhem Land follow the same route: supplies are ordered from importers based in Sydney, and the consignments are then sent to Darwin where they are further distributed to the communities by aircraft or barge. Originally, all kava supplies to Arnhem Land were ordered and distributed through the Yirrkala Homeland Resource Centre. Most communities now purchase their own supplies.



Map 2: The Arnhem Land Region where kava is currently used

Table 1 presents information about the quantities of kava supplied to individual Aboriginal communities during the early part of 1985. This information was obtained from some of the suppliers and air charter companies which carry kava into Darwin and the communities. It does not include all the kava going into the communities as it is known that some is ordered from other suppliers, and smaller quantities are carried privately by individuals. It does give, however, a conservative indication of the amount of kava used in each community.

Table 1

Kava supplies to Aboriginal communities,
January to May 1985

Community	Time period	Quantity (kg)
Minjilang (Croker Island)	11.1.85 - 27.4.85	140
Warruwi (Goulburn Island)	9.1.85 - 23.4.85	690
Maningrida	20.3.85 - 15.5.85	108
Milingimbi	9.1.85 - 23.4.85	1554
Ramingining	3.1.85 - 19.4.85	840
Gapuwiyak (Lake Evella)	3.1.85 - 19.4.85	820
Galiwin'ku (Elcho Island)	3.1.85 - 19.4.85	865
*Yirrkala	10.4.85 - 8.5.85	1200
*Darwin	6.2.85 - 13.5.85	810

*It is understood that these supplies are further distributed.

It appears that kava is not supplied directly to Groote Eylandt and the outstation settlements. Kava supplies to these areas are purchased from nearby communities. It is certain that some of the very large quantities of kava supplied to Yirrkala are distributed elsewhere.

Current patterns of kava use

The type of kava used in Arnhem Land is the commercially produced, powdered form, from the South Pacific. In the Aboriginal communities, the beverage is prepared by wrapping the powder in a piece of cloth, immersing it in a large bowl or other container filled with water and squeezing it with the hands (plates 5 and 6). The drinkers sit around the bowl and share the beverage from a single cup (plates 7 and 8).



Plate 5: Barayuwa Mununggurr and Alfred Gondarra preparing kava powder for drinking



Plate 6:

Barayuwa
Mununggurr
preparing
kava powder
for drink-
ing