

ETHNOLOGY

Drinking Map of The World

Second Bone-Dry Era Is Ending in North America, For Indians Were Better Teetotalers Than Modern Whites

By DR. FRANK THONE

DRINKING fermented beverages is as widespread as civilization itself, and from all indications the practice is as old as civilization. Whether you regard it as a pleasant indulgence, or a moral weakness, or a degrading vice, all races of mankind above the most primitive have the habit. The empire of Bacchus is not world-wide, but it does include practically all lands where men have learned to raise grain in fields or trees in orchards, or to herd cattle and horses, camels and goats.

When you hear it said that all civilized men drink, you need not confine your mental picture to cocktail parties in skyscraper penthouses of Manhattan, or a *gemütlich* evening over the steins in München or Vienna, or elegant Japanese gentlemen sipping their little cups of saké. Much less pretentious civilizations than these have taken their pleasure in hunting for the bottom of the bottle. Your picture can include such modest claimants to culture as migratory tribesmen of the vast Asian plains, naked Indians of interior South America, Zulus of the South African veldt, and brown Malays of the East Indies. All these peoples, and many others in between, had their native tipples long before the white man brought them fire-water, and most of them still stick to their old favorite brands of home brew.

Extensive Dry Areas

Yet the map of the world is not all wet. There are extensive areas that were dry before the adventurous European began his world-wide career of trade and conquest, rather less than 500 years ago. In general, the "primitive fringe," the peoples who knew not agriculture or herding, were teetotalers before the white man handed them his dangerous flask. And in among the more civilized peoples in Africa and Asia there were little islands of savages—possibly fragments of almost eliminated aboriginal populations—who were also strangers to fermented drinks.

And perhaps oddest of all, there was

one extensive area where agriculture was practised, yet where the people had neither beer nor wine. That was the territory that is now the United States of America, now busily engaged in ending its *second* bone-dry era. There were a few wet spots in the country in the old Indian days, but they were not important. The anomaly stands: a native population civilized enough to raise corn and make clay pots, yet which had not learned to put the one in the other, pour on water and let nature take its course.

The brown-skinned Polynesians of the South Sea Islands, too, were apparently dry in pre-exploration days; though they have learned a trick or two since. Their agriculture, however, was much more happy-go-lucky than that of the Indians of our own corn-raising area, which took in practically all of the country east of the Great Plains and south of the Great Lakes area, including also what is now the Province of Ontario in Canada.

Drink and Grain

This interesting wet-and-dry map of the primitive world has been worked out by a leading anthropologist for serious scientific purposes, but it is none the less interesting to the rest of us, whichever way we may be voting on repeal. The data on the world's drinking habits at the beginning of the modern era were assembled from a multitude of sources by Dr. John M. Cooper, anthropologist of the Catholic University of America in Washington, D. C. He wanted to learn, among other things, how this drinking map of the world agreed or disagreed with one he had previously blocked out, showing the grain-raising, cattle-herding, "civilized" lands. The astonishing overlapping of the two areas, with the exceptions already noted, writes another interesting page in the story of the parallel development of separately originating civilizations.

For it is not to be thought that the arts of brewing beer and fermenting wine originated in one place and spread thence to all the rest of the world. More probably there were dozens of

separate, largely chance, discoveries. Certainly chicha, the corn beer of the Mexican, Central American and South American Indians, must have had a separate birth from that of the barley and wheat beers of the Mediterranean basin and Europe, for anthropologists are now pretty well agreed that the inhabitants of North and South America came in by way of the Bering Straits region before agriculture was known to them, and invented the art independently of Old-World peoples when they found a suitable plant, the ancestor of our modern maize or corn, probably in Central America.

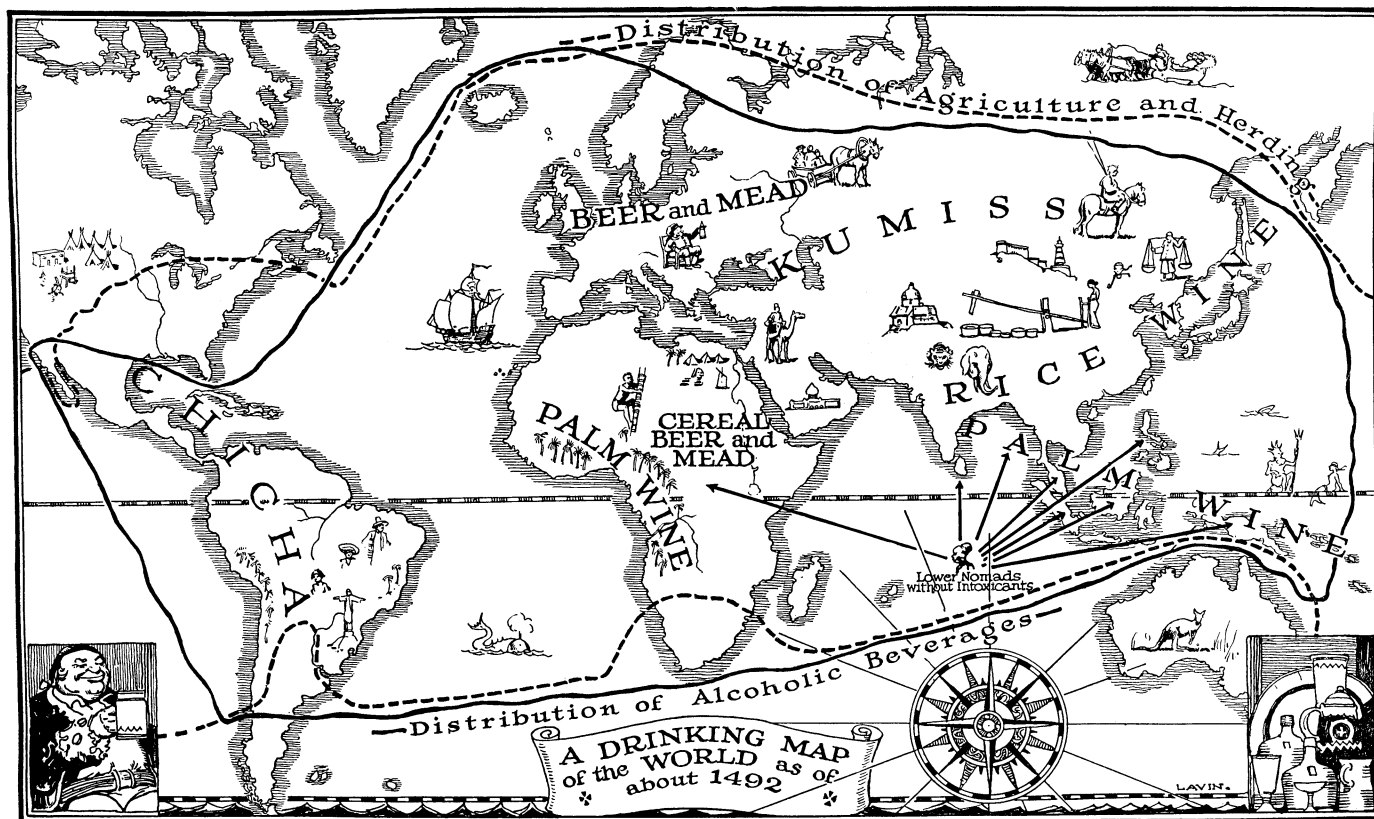
The native drinks produced in various parts of the world at the beginning of the modern epoch were many and various, but the ones most widely used number about seven.

Animal Origin

One of these, strangely enough, is of animal origin: kumiss. Kumiss is a drink made by the nomadic tribes of interior Asia from the fermented milk of mares and camels. Even the idea seems queer and unappetizing to our imaginations, but the dwellers in the felt tents like the stuff, and count among their most valued possessions the great jars in which they keep it and the cups from which they drink it.

The other six beverages are all of vegetable origin, and are enjoyed in the main by peoples of more strictly settled and agricultural habits. Naturally, each people learned to use the plants it raised or found abundantly in its own neighborhood. Thus we find the beer grains always identical with the bread grains: barley and wheat in the Egyptian-Asia Minor-European culture area, corn in America south of the Rio Grande, rice from India to Japan, millet in Central Africa. Thus also we find grape wine originating in and spreading from the native land of the wine-type grape, which is perhaps the hill country of Asia Minor. In northern Europe and central Africa, where there were plenty of wild bees in early times, men learned to dilute and then ferment their honey to make mead.

In the tropics, African, Indo-Asian and to some extent South American, the sugary sap of palm trees ferments quickly in the favoring heat into palm



wine. In India at least, some of the more primitive men do not trouble to collect the sap. They merely shin up a palm tree, cut out the central bud, leaving a cup-shaped depression, which quickly fills with the juice. Next day they shin up again, with a straw. Maybe they come down sober, maybe not. It is said that Ghandi includes prohibition in his hopes for a regenerated India. With arrangements as simple as this, it is hard to see how he will be able to make it work.

That about completes the list of the world's favorite drinks, as they stood before the restless white man began to mix them; kumiss, beer, wine, mead, rice wine, palm wine, chicha. And they are all older than history: there is no written record of the origin of any of them. On the contrary, in the lore of almost every people, some god or other is credited with their invention. Needless to say, that god is always a favorite. Roman youths swore by Bacchus, at least as often as they did by the successful politician Jupiter or the heavy-weight champion Hercules. And the Mexican Indians credited the god of their chicha with bringing to his appreciative children on earth nineteen separate recipes for home brew on a single visit!

When the literature of a people cred-

its a god with the beginnings of an art or an invention, it is a pretty certain sign of prehistoric origin. Either the wise king or clever priest who first put it across is given divine honors (as Imhotep, Egyptian designer of pyramids and pioneer physician, is said to survive in the Greek god Aesculapius), or else the legend is a way of dodging the humiliating admission: "We don't know."

Scores of Brews

Certain it is that the oldest written documents, both in Egypt and Babylonia, treat of brewing as an already universally established and highly elaborated art. Not even America in these days *post* April 7, 1933, can boast more brews than Babylon knew in her beeriest days. The Babylonians and their neighbors had literally scores of separately named kinds of beer, all duly listed as necessities for certain great temple feasts. And the Egyptians ran them close.

A curious feature in both Babylonian and Egyptian brewing was the use of bread, usually specially baked, as an ingredient. The loaves were broken up and thrown into the fermenting vat along with both malted and unmalted grain. This practice almost certainly indicates that brewing in the two coun-

tries had a common origin, though which learned from the other is not certainly determined. The same curious practice of fermenting liquor from soaked bread crusts still survives in parts of Russia and other Slavic countries, where a drink called "kvass" is made from soaked black rye bread.

Preparation of fermented drinks from the juice of grapes or other fruits, palm sap or diluted honey is of course an easy and natural thing. There are always yeast cells floating around in the air or clinging to the skins of fruits, ready to start any sugar solution they meet to "working." But to get a fermented product out of barley or rice or millet or corn, which consist mainly of starch, is a different matter. Yeast cannot work on starch; the starch must be converted into sugar first.

Malting is the time-honored process for accomplishing this end, in our own experience. This consists simply in wetting the grain, keeping it warm, and letting it sprout. When a seed sprouts, a ferment or enzyme able to convert its starch into sugar is released. Then if the sprouted grain is killed by heating (but not too hot) the ferment can be used to convert other starch into sugar as well.

Who discovered malting is just as much an unsolved (*Turn to Page 172*)

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"The symptomatology of the cases has differed somewhat from most other outbreaks of epidemic encephalitis in that disturbances of the motor functions of the eye are unusual, instead of being usual, and there is a more uniform and moderate meningeal involvement, with corresponding increase in the cell count on spinal puncture. The clinical picture is that of a general febrile disturbance, often with gastro-intestinal symptoms such as vomiting, constipation, or diarrhea; evidences of cerebral involvement—an apathetic or immobile facial expression, usually somnolence, stupor, coma or delirium;—usually a moderately stiff neck, with headache, which is often the first and most pronounced symptom, and other pains, as of the abdomen or legs; tremor and catatonic semi-rigidity are common in the more severe cases. Tendon reflexes, such as those of the elbow, knee, ankle, and superficial reflexes such as those elicited by stroking the abdomen tend to be irregularly diminished or absent, and to vary from day to day. Not infrequently the plantar reflex is extensor, the toes coming up on stroking the outer side of the sole instead of bending down. There may or may not be a Kernig sign. Some patients are very restless and have to be restrained. Irregular paralyses may occur, and hemiplegia, usually transient, is not uncommon."

More Workers

Four research workers from the U. S. Army Medical Corps have joined the scientists of the U. S. Public Health Service in the St. Louis encephalitis area. They are: Maj. James S. Simmons, Maj. Virgil H. Cornell, Sgt. George F. Luitpold and Sgt. Jesse F. Rhoads. These four men have had long ex-

perience in the study of insect-borne diseases, and will concentrate their attack on the question of the possibility that the present outbreak of encephalitis is being carried by mosquitoes or other insects.

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riddle as the whole discovery of the brewing art itself. However, it is a relatively complicated process, and not all the makers of beer in the primitive world knew about it. The others had another way of changing their starchy grains into sugar.

You will doubtless remember that your physiology teacher, back in school, told you that if you chewed a piece of soda cracker long enough it would begin to taste sweet. Perhaps you tried the trick, and found that it worked.

That is the other way of changing starch into sugar: by means of the ferment or enzyme found in human saliva. And that is the way around the malting problem used by many of the brewers of the world outside the Egyptian-European area. The same technique was used and still is used in the preparation of the saké of Japan and the other Asian rice wines, the chicha of tropical America and the millet beer of central Africa. The women chew at least a part of the grain and then spit it into the fermenting-jars. It sounds messy to us; but it works, and the drinkers of those countries don't mind it. It all depends on what you're used to.

Fermented drinks constituted the "wine card" of almost all peoples at the beginning of the modern era, which Dr. Cooper reckons as of about the date of Columbus' first voyage. At that time very few peoples knew anything about

distillation and the preparation of the strong liquors that have constituted the real crux of the "drink problem" in our own day. Even in Europe, where distillation has reached its maximum, strongly alcoholic beverages were still as good as unknown a century after Columbus. We think of Falstaff as a classic souse, yet he did his toping on wine. There was no whiskey, no brandy, no rum, no cognac, on the long bill he cursed so heartily over.

But not long afterwards, in the days of the Stuart Kings, men were getting drunk on stuff they called "aqua vitae"—a name still surviving in the French *eau de vie* and the Swedish *akvavit*. The same misnamed "water of life" is said to be the basis of the somewhat corrupted Erse word "whisky."

How distillation got to Europe, even as modernly as it did, nobody knows for certain. The art is credited to the Arab alchemists of the later middle ages.

The name *alcohol* is of course Arabic, but it meant originally the fine black powder with which the ladies of the harem darkened their eyelashes, not the liquid used by unbelievers as a foundation for blacking whole eyes. Only by derivation has it been transferred to the limpid but dangerous fluid now too well known to the western world.

But it is unlikely that the Arabs invented distillation. They really invented very little of their own, even in their palmiest days, though they were always very apt pupils of other and older cultures. Much of their alchemy seems to have come from China, and Dr. Cooper believes he has found evidence that the Chinese alchemists knew how to make strong distilled liquors centuries before the art found its way to the Occident.

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Front Cover Picture

The laboratory has yielded a photograph of striking beauty showing Dr. Joseph Slepian and Leon R. Ludwig, Westinghouse engineers, examining a product of their research.

They have developed a new method of controlling mercury arc devices which is said to be more positive and many times faster in action than methods now used. The arc can be started 60 times a second at any point on the voltage wave, and, since there is no grid to be protected from heating but merely a carbon-dum-pencil dipping in the mercury pool, large currents can be controlled as easily as small ones.

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