

Herbs of the Inside

an unpublished book *by*
Gary J. Lockhart
(1942–2001)

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INTRODUCTION

*“Then gently scan your brother man, still gentler sister-woman;
Though they may gang a kennin’ wrang, to step aside is human.*

*Then at the balance let’s be mute, we never can adjust it;
What’s done we earthy may compute, but know not what’s resisted.”*

Solomon Robert Burns

Herbs of the Inside deals with the rich heritage of medical plants used to heal and invigorate our bodies. You will learn about physical fitness, first aid, digestion, respiration, arthritis and a variety of other subjects. The rich traditions of medical history prove that there are many green answers for human problems!

In European tradition the first herbal was the lost herbal of Pythagoras in the sixth century before Christ. This was followed by the small herbal of Theophrastus in the third century before Christ and then the large herbal of Dioscorides in the century after Christ. A steady stream of herbals followed these pioneering books during medieval times. Leonardo da Vinci began the illustrations for an herbal, which are now kept in the royal Library in Windsor, England. Sir Isaac Newton kept a notebook of herbal remedies at the age of 14.

In -400 Hippocrates was using about 400 herbs in his practice, although most of them were culinary foods for sick people. A century after the time of Christ, the books of Dioscorides, Pliny, Scribone and Celsius listed the medical effects of about 700 herbs. Doctors began to replace the herbals with formula books used by pharmacists, which were called pharmacopoeias, around +1600. The listings of the herbs used by pharmacists during the last century include 1,800 plants. By the 20th century there was a strong trend to eliminate all natural products in favor of synthetics.

The herbals haven’t changed much in the last 2,500 years. Many of the herbals in the bookstores are really updates of Dioscorides. In the last 300 year a new body of medical literature was generated to share the discoveries and ideas of doctors. Medical journals were started to meet the needs of doctors by reporting better ways of diag-

nosis and curing.

In 1665 a group of scientists in France founded the *Journal des Scavens*. The world's first science journal also included articles on medicine. This began the tradition of observing, testing and reporting results. In 1680 the *Zodiacus Medicus-Gallicus* became the first journal to specialize in medicine. The first true medical journal began in 1731 in England, but it only lasted a few years. The first medical journal of the United States began in 1797. All of the medical journals of the 18th century could comfortably fit into a small bookcase. By 1841 there were only 43 medical journals in existence, but this increased to 6,000 by 1981.

The proliferation of journals was paralleled by the number of medical books. The invention of the printing press began the process and machine-made paper entered the market around 1830. In +1392, the Faculte de la Medicine of Paris had 12 books. I did most of my research at the University of Washington where the campus libraries have five million books!

The first herbal printed in English was the *Grete Herball* in +1516. The herbal of John Gerard in +1597 followed by John Parkinson's herbal were the first attempts to sum up all medical information on herbs. In +1652 Thomas Thader wrote the first medical book of the United States, which was *A Brief Guide to the Smallpox and Measles*. There are now more than 3,000 books written on the subject of herbs.

The golden era of herbal medicine occurred around 1880, when hundreds of articles in medical literature dealt with plants all over the world. By 1890 a major shift was occurring, as the emphasis shifted to chemicals and chemical extracts of plants. By 1900 articles were appearing labeling doctors still using herbs as old fashioned and out of date. The virtues of chemicals and "pure alkaloids" were heavily advertised.

In the course of 24 years of work I visited some 40 major libraries in the United States and Canada. I sifted through some 250,000 journals and books. I put over 40,000 hours into this project and an equal number of miles on my library travels. I used indexes as a last resort, preferring to sift through millions of pages and find whatever

was there. Doing research the hard way is tough and time consuming. I found thousands of articles that I wouldn't have found if I had relied on indexes.

Through the years of work, I had articles translated from Russian, Ukrainian, Portuguese, Spanish, French, Italian, Danish, Swedish and German. I received letters from eight countries, materials from the National Archives, the Patent Office and even a letter from the military archive historian at the Pentagon!

Friends who asked questions often resulted in major contributions to these pages. I want to thank the many friends who supported my efforts. Special thanks go to Doris Jones, Drena Kaufman, and Jean Redosovich, who made many suggestions. Arthur Lee Jacobson, our local tree expert and naturalist helped with the botany, for which I am greatly thankful.

This book is not a substitute for the advice of a doctor. Diagnosis is a specialty that can only be learned by experience. I do not recommend anything, nor do I have anything to do with commercial interests. Most herbs are harmless, but there can be side effects, and an expert on medicine should be consulted.

I have used botanical names, because many plants have no common name, and it is important to properly identify them. Many plants that I write about are difficult to find, but perhaps interested readers will stimulate nurseries and seed catalogues to make them available.

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1. LORE OF ALCOHOLISM

“We are spinning our own fates, good or evil, and never to be undone. Every smallest stroke of virtue or of vice leaves its never so little scar. The drunken Rip Van Winkle, in Jefferson’s play, excuses himself for every fresh dereliction by saying, “I won’t count this time!” Well! he may not count it, and a kind Heaven may not count it; but it is being counted none the less. Down among his nerve-cells and fibers the molecules are counting it, registering and storing it up to be used against him when the next temptation comes. Nothing we ever do is, in strict scientific literalness, wiped out.”

Psychology William James 1892.

Henry Hudson is only one of a long list of early explorers who tried to find the Northwest Passage to China and failed. When he was unable to find open water in his search, he sailed down the coast in September of 1609 until he came to what is now New York. The Delaware and Hohican Indians sent runners to tell their tribesmen that a “great house” had been seen floating on the sea, and it meant that the “Mannitto” [Supreme Being] was returning.

When Hudson landed he was met by a large number of Indian leaders. They described the Mannitto taking his “hackhack” [gourd] and pouring out a strange liquid. He drank of it and passed it to the chiefs. It was passed on until a brave chief drank. He declared that the sensation was wonderful and that everyone should drink. They did and soon everyone was drunk. They named the place in the Delaware language “Manahachtanienk” meaning, “the island where we got drunk.” We have shortened the word for this area of New York City to “Manhattan.”

Alcoholism may be some deep part of our primitive nature, which longs to forget all problems and social responsibilities. The South African naturalist Eugene Marais followed a troop of baboons and found that they made long out-of-the-way trips to feast on a certain cycad. After they had eaten its fruit, they displayed the same behavior that we would see at a drunken party.

The elephants of Kruger National Park in South Africa go on yearly alcoholic binges. Marula berries from the *Sclerocarya birrea* ssp. *caffra* tree are high in sugar and quickly ferment into alcohol. The el-

elephants eat the berries and quickly become drunk. They stagger about waving their trunks, trumpeting and uprooting small trees. Nobody knows if they see pink people.

In Biblical lore, Noah was the first man to plant a vineyard and make wine, and also the first man to get drunk. There is a Jewish story that when Noah planted that vineyard, Satan poured in succession the blood of a lamb, a lion, an ape and a pig over the soil. Then Satan said: "When man shall drink one cup, he will be like a lamb meek and humble. After two cups he will be as strong as a lion, but three or four cups will make him like an ape. After more than that he will roll in the mud like a pig."

But alcohol was also considered a gift from God. In -1700 the Babylonian King Assurnazir wrote: "I have poured out wine, which maketh glad thy heart." Jehovah demanded offerings of alcohol in addition to the sacrifices of animals. *Numbers 28:7* reads: "In the holy place shall thou pour out a drink offering of strong drink unto the Lord." Saint Paul advised that wine be drunk in moderation and recommended it as a tonic.

Moderate use of alcohol may serve as a calming digestive agent. In 1907 Raymond Pearl began a series of experiments to see if alcohol affected the life expectancy. One group of chickens got a little alcohol mixed with the mash, and another group stayed sober. Five years later all of the drinking chickens were alive and all but two of the sober group died. The drinking chickens far exceeded the life expectancy of the sober chicken. Chickens are very nervous birds and fright shortens their life. The alcohol may have reduced this type of stress and the experiment doesn't really apply to humans.

The first stills came to Europe as a result of the experiments by alchemists to make gold around +1200. The best wines of the time were about 15% alcohol, but the new concentrates were four times stronger. Around +1300 Raymond Lully wrote: "The taste of it exceedeth all other tastes and the smell all other smells. It is of marvelous use a little before the joining in battle to encourage the soldiers' minds."

History offers little advice for alcoholics. You were considered to be a "real man" if you could out-drink all of your friends. Most of the

advice about drinking in the early herbals concerns the use of herbs to help you drink more, without showing signs of drunkenness. The Greeks added ginger, pepper and cheese to the wine, so people could drink more. It was the duty of the chairman of the drinking party to “mingle” the wine with water, so people could continue to drink, without becoming excessively drunk.

Apples, quinces and pears were served at Roman banquets to ease the headaches caused by wine. Guests wore wreaths of roses and myrtle flowers with the idea that it would help them drink more. They believed that cabbage prevented drunkenness, and they consumed a lot of cabbage before their drinking parties. It is still popular in Europe to eat or drink cabbage juice before heavy drinking. In Germany a salad made of cabbage leaves dressed with salt, vinegar and oil was known as the “arcannum.” It was eaten to prevent intoxication before serious drinking. A scientific study of cabbage and drinking was done in France in 1948, but alas, cabbage does not prevent drunkenness.

The Roman naturalist Pliny wrote: “If a man is disposed to drink heavily, before he begins, he should take a decoction of rue leaves. This will help him bear his drink well, and withstand the fumes that might trouble his brain.” But rue *Ruta graveolens* is worthless in preventing hangovers.

The popular European remedies for soothing headaches from excess alcohol are legion. Cold compresses or ice bags were put on the head. In Germany, “tosten cakes” were soaked with vinegar and put on the forehead. Elder bloom water was used as a headache remedy. It is known that elderberries *Sambucus* species are very active in relieving neuralgic pain. An old German cure for drunkards was to let two eels die in wine. Strain and give to the drunkard.

There is an enzyme in our bodies, which eliminates the alcohol in our blood. If we could increase the activity of ADH (alcohol dehydrogenase), we could sober up more quickly. According to Japanese work, if *Aloe ferox* is taken before drinking it aids in clearing the blood, so that after five hours there is only a quarter of the expected alcohol concentration in the blood.

A drug company discovered a synthetic chemical that blocks the effects of alcohol. In theory you could drink all you wished, then take

a pill and drive safely home without any alcohol effects. Nature may have been the first to invent the sobriety pill. In Thailand the Lahu claim that the leaves of the lum-la tree (probably *Cassia renigera*) will produce instant sobriety after drinking.

In India the shoots of the broad bean *Vicia faba* are said to quickly sober up drunkards. The Ainu of northern Japan used *Elsholtzia ciliata* from the mint family to cure hangovers. We don't know if any of these cures worked. If they did, they didn't prevent the desire to drink in the first place.

Even today, many old taverns in England are identified with a carving of ivy over the door. This comes from the legend that ivy protects men against drunkenness. Bacchus, the god of wine, was said to have originated this protection. This gave rise to the popular saying: "Good wine needs no [ivy] bush."

In a modern era where we have to drive home, we have newer ideas. Coffee is supposed to sober you up, but all coffee does is to produce a more wide-awake drunk. Some European taverns give drunkards a jigger of vinegar to sober them up rapidly. None of these remedies should be trusted: don't drink and drive.

The ancient drinkers had their own proverbs: "By fire one tests gold and silver; by wine one learns the character of a man." "Insolence and wine reveal to man the character of their friends." Plutarch wrote: "One drunkard begets another." We know today that genetics does have something to do with alcoholism. Pythagoras said: "Drunkenness is a training for madness." He might have been speaking about the consequences of the lack of self-discipline. Being a believer in reincarnation, perhaps he taught that the karma of excess drinking led to insanity in another life.

It has only recently been recognized that excess drinking by either parent can lead to defective or slow learning children. This fact was recognized in ancient lore. The philosopher Zeno berated his pupil Aristo for talking randomly, by telling him that his father must have been drunk when he was conceived. In Ribbinical lore, children conceived during intoxication were believed to be mentally defective.

Ancient history records an herbal cure, but its identity has long been lost. Alcoholics were also said to be cured by drinking water

from the Acadian Fountain. Nobody knows where it was and what was in the water. Perhaps it was high in silica, for in the alpine areas of Europe, water with sand or volcanic ash is still taken before drinking. The Vikings believed this and wrote: "Whenever thou drinkest ale, take earth's strength as an antidote; earth acts against ale."

The disorder known as delirium tremens has been dealt with vitamins and calcium supplements. The English herbalist Culpeper wrote: "Many times such as give themselves much to drinking are troubled with strange fancies, strange sights in the night time and some with voices. I have known these to be cured by taking only two spoonfuls of a syrup of this herb [bugle weed *Ajuga reptans*] after supper two hours, when you go to bed."

Without effective treatments, punishment became the way to treat alcoholism, but it wasn't effective. King James I was the first to fine alcoholics. A first offense for drunkenness cost five shillings or six hours in the stocks. This was mild compared to Lyncurgus, the stern leader of Sparta, Greece, who cut off the legs of drunkards. Even that was kinder than the Turkish Sultan Solyman I, who punished habitual alcoholism by pouring molten lead down offenders' throats.

Why is it that most people can drink moderately, but some people are simply compelled to drink to excess? One answer comes from Japanese experiments on mice. The mice had a choice of 15% alcohol or water. When they were given small amounts of carbon tetrachloride, which damages the liver, all of the mice began to drink alcohol two to three days later. The researchers theorized that the toxin affected specific liver enzymes and changed the enzyme breakdown mechanism. Part of the compulsion of alcoholism may be a self-created liver dysfunction.

Chronic alcoholism becomes a severe nutritional disorder when it becomes delirium tremens. The tremors are associated with low serum magnesium concentrations. The tremors clear up rapidly with injections of a gram of magnesium salts hourly along with B vitamins. It takes about two days for the unreadable signature to become readable and about nine days before it becomes normal.

The problem of alcoholism is world wide, for many people just cannot leave alcohol alone. Prohibition was unsuccessful, for alcoholic

drinks are easy to make. The Romans had a non-alcoholic wine called “adynamon,” meaning “without power,” and only women drank it. In an era without rapid transportation and factories, alcoholism could be ignored. Today it has become a problem of global proportions, and one of the few tested solutions is “Alcoholics Anonymous.”

Eugene Marais believed that higher-brained animals needed to escape from the pain of consciousness, and alcoholism provided this escape.

Robert Burns was a friend of the bottle who described the feeling of drinking and escape from reality in this way in *Death and Dr. Hornbook*:

“The Clachan yill had made me canty,
I was na fou, but just had plenty;
I stacher’d whyles, but yet took tent ay
 To free the ditches;
And hillocks, stanes, and bushes, keen’d ay
 Frae ghaists and witches.”

2. FORGOTTEN ALCOHOLIC TREATMENTS

“If we take habitual drunkards as a class, their heads and their hearts will bear an advantageous comparison with those of any other class. But however kind and intelligent drunks may be, there is still an obsession to cure them.”

Abraham Lincoln.

“Thanks be to God, since my leaving drinking of wine, I do find myself much better and do mind my business better, and do spend less money, and less time lost in idle company.”

January 26, 1662 *The Diary of Samuel Pepys.*

The age of vaccination began with Louis Pasteur and soon eager French scientists were carrying it a step further. By 1896 French scientists claimed that they discovered the ultimate cure for alcoholism; a sobriety vaccine. They got laboratory animals drunk repeatedly and then made extracts of their blood. We don't hear anything about the sobriety vaccine, because it didn't work.

In 1905 Doctor Evelyn of San Francisco produced a serum which he called Equisine. He made it by giving two to fifteen pints of whiskey to horses daily for up to three months and extracting a blood serum. He claimed that the serum was so strong that it would turn an alcoholic into temperance fanatic. Parents could vaccinate their children with Equisine, and they would never touch drink throughout their lives. The nonbelievers called the new serum “Asinine,” and it was forgotten.

It is generally believed impossible to produce immunity against a simple molecule like alcohol, which is present in trace amounts in the body. Alcohol does create secondary molecules in the body, to which it is theoretically possible to create a vaccine.

Perhaps the hardest drinkers in the world are the Russians, and by consequence, their folk healers have a large number of cures. A tea of *Asarum europaeum* and *Valeriana officinalis* was said to counteract the craving for alcohol. Another treatment was to have the alcoholic drink a cup of thyme *Thymus vulgaris* tea every half-hour. On the fol-

lowing days the interval was stretched to two hours and then at infrequent intervals. Its effects were said to produce vomiting and diarrhea if alcohol was drunk. If there was a relapse, a short treatment was said to cure the alcoholic.

Russian healers also used the lemon cure. On the first day of the month, the alcoholic was given the juice of one lemon, and this was increased by a lemon a day. By the fifteenth day the alcoholic reduced his consumption by a lemon a day, until it was zero. The whole treatment took 231 lemons and patients treated in this way were said to become indifferent to alcohol.

Vomiting produces a powerful aversion to whatever is associated with the cause of vomiting. When rats are fed a particular food and then given something that makes them vomit, they instinctively avoid that food, even though it was not the cause of their distress. I once ate some chicken potpie, and then contracted the flu, which produced severe vomiting. It was nearly a year before I could stand to eat the same thing again, even though I knew that the food had nothing to do with the vomiting.

The principal therapy used by Russian folk healers was aversion therapy. They gave the alcoholic the club moss *Lycopodium clavatum* as a tea. Then the person had to drink a glass of vodka, which produced vomiting. More glasses of club moss tea were followed by vodka and vomiting, until a powerful aversion was developed. This form of aversion therapy crops up in several places of the world. The witch doctors of South Africa used *Euphorbia ingens* to make alcoholics vomit and cure them.

People eating *Coprinus atramentarius* mushrooms probably did the initial discovery of vomiting and aversion. It is a delicious mushroom, but it contains a sulfur chemical which blocks an alcohol metabolizing enzyme. If you drink within a day of eating these mushrooms, you will have a metallic taste, a flushed face. You are likely to become nauseous and then vomit. It makes no difference if the mushrooms are raw or cooked. Cases have been reported where morels *Morchella* species or *Boletus luridus* has the same effect.

A similar chemical, now known as antabuse, was discovered at a German fertilizer plant in 1914. Workers complained that when they

drank after work, their faces were flushed and they often vomited. Antabuse was eventually adopted as a way of treating alcoholics. It does not reduce the craving for alcohol, but it does make the drinker so miserable, that it is difficult to drink.

The Mexican people of the Rio Grande valley on the Texas-Mexican border use an aversion therapy. Many herbalists and herb stores carry the seeds of *Hura polyandra* or *H. crepitans*. The seeds are peeled, roasted, powdered and mixed with food. Generally, the person taking the treatment does not know what is happening. Occasionally Mexican alcoholics use the seeds to cure themselves. One Mexican lady said: "Sometimes this remedy works and the man stops drinking; but other times he just stops coming home for dinner." The seeds cause sickness when alcohol is drunk and when mixed in food they aren't noticed.

There are a number of herbs that are untested, but have some lore of helping alcoholics. In 1894 Doctor Skvottzow reported that when he had an alcoholic take seven drops of a tincture of *Strophanthus hispidus* three times a day, it caused such a distaste that he gave up his drinking. *Sida rhombifolia* is used in Latin America as a treatment for drinking. Chiretta *Swertia chirata* was used in India to give drunks a temporary distaste for alcohol. A tincture of *Carduus marianus* is said to have helped alcoholics.

The Amazon jungle healer Manuel Cordoves learned of the use of *Guarea guidonia* from a native chief. The bark was chopped and put into cold water and strained twelve hours later. The herb regulates bile secretion and reduces liver inflammation. It causes vomiting in excess, but it did cure alcoholics.

The ombu tree *Phytolacca dioica* grows on the pampas of Argentina. It resembles a giant oak, but it is simply a huge weed. In Argentina the tree is called "ballasombra" *i.e.* "beautiful shade." The tree never seems to die and is resistant to all insects. It is claimed that putting some tree leaves into a favorite drink can forever cure even the most compulsive alcoholic. It is not a true tree, but a gigantic relative of the pokeweed!

Old medical literature contains several instances where alcoholics were helped or cured by taking a tincture of oats *Avena sativa*. In one

case a 35 year old man was given five drops of the tincture three times a day and it eliminated his drinking binges. When he stopped taking the oat tincture he went on drinking sprees. Oats have a morphine blocking effect, which has been the subject of some study, so this has some validity.

Several interesting cures have been discovered in laboratories. When rats were given a powdered thyroid preparation with their food, they immediately stopped drinking alcohol and began drinking water. Even an addition of 0.1% thyroid powder in their food was enough to make an alcoholic rat taper off to zero within two months. The experimenters found that rats made hypothyroid by surgical removal increased their consumption of alcohol.

The common maidenhair fern *Adiantum capillus-veneris* is one of the old tapeworm treatments. When the active component (flavopidic acid) was given to dogs who were used to eating a soup of bread and wine, the dogs refused to touch the wine soup for the next three days, even though they were given nothing else to eat. The chemical changes the sensation of taste and smell. Wines taste unpleasant, tobacco tastes bitter and coffee is flavorless. When the chemical was tested on heavy drinkers in Italy, 10% became total abstainers and 80% voluntarily reduced their consumption of alcohol.

Traditional Chinese doctors have used extracts of kudzu roots *Pueraria montana* var. *lobata* as a treatment. This was first mentioned in Chinese books in +600. After interviews with 13 traditional Chinese doctors, kudzu was deemed worthy of a trial. The doctors treated 300 alcoholics with the root. The craving for alcohol was eliminated in 2-4 weeks and the damage caused by alcohol was eliminated in 4-6 months.

The Syrian golden hamster *Mesocricetus auratus* is suitable for testing for alcoholism. When they are given a choice between 15% alcohol and water, many hamsters will become heavy drinkers. Six of the heaviest drinking hamsters were selected for the test. The chemicals in kudzu roots that reduced the consumption of alcoholism were identified as daidzin and diadzein and given. They caused a big drop in alcohol consumption in the hamsters.

Another answer to alcoholism was found when groups of alco-

holic rats had supplements of the twenty amino acids added to their food. The other batches of rats continued drinking, but the rats with glutamine supplements voluntarily reduced their consumption of alcohol. This experiment was extended to human alcoholics. The amino acid is a cheap tasteless white powder that was added to food and could not be detected. Without any outside help most of the men immediately stopped their compulsive desire to drink. It usually took one gram a day to produce this effect, but in a few people it took ten or twenty grams to control drinking. Many of the alcoholics who stopped drinking did not know that glutamine had been added to their food.

Some experiments were done using glutamic acid instead of glutamine. This produced no aversion to drinking and these experiments were used to reduce the credibility of glutamine, so that it was forgotten. Most doctors are unaware that is effective and cheap. Pharmaceutical companies have no monetary incentive to recommend it, although it is available in health food stores. Many therapists make their living “treating” alcoholism, for the same people return again and again for treatment, paid for by taxes.

A recent test was done in Italy on 31 problem drinkers. They were given from 500 mgs. to one gram a day of glutamine. One example in the test was a 33-year-old peasant farmer with delirium tremens. He had been a heavy drinker for almost 20 years. A gram of glutamine with vitamin supplements cured him in three days.

In 1980 a doctor treated a patient for a metabolic problem with two 250 mg. tablets of niacin daily. After four weeks, he stopped drinking. This interested the doctor, and he tried niacin on ten other patients with success. Alcohol as a chemical doesn't make you drunk; it is metabolized to acetaldehyde, which causes the drunk sensation. Rats get equally “drunk” when injected with 4.5 grams per kilogram of alcohol or with 0.3 mgs. of acetaldehyde. In 1974 a researcher showed that acetaldehyde levels in rats could be cut in half by giving them the form of niacin known as niacinamide. The acetaldehyde reacts with dopamine in the brain to stimulate the pleasure centers. Reducing the level of this chemical reduces the pleasure sensation and in turn stops the addiction.

Niacin (nicotinic acid) was the subject of a large study in Michigan. The first group of alcoholics was ordered by the court to get treatment, so they were probably poorly motivated. With niacin 38% had good or excellent results in avoiding excess drinking. The second group sought help for themselves in a treatment program. In this group 56% had good or excellent results. A five-year follow-up study showed that 60% had definite benefit and 30% of alcoholics do quite well with niacin.

There is a spiritual component in drinking, for many people find happiness and satisfaction in the bottle. In 1931 the Swiss psychoanalyst Carl Jung treated a young banker, who had a severe drinking problem. The sessions of psychoanalysis were successful, and the man was cured for a time but then he had a relapse. When he returned for further treatment, Jung told him that the situation was hopeless and his only cure was a spiritual experience.

The spiritual experience is independent of religion, for it is the finding of inner awareness. I once talked to an American Indian who gave up drinking as a result of a peyote experience in the Native American Religion.

Japanese authorities encourage alcoholics to attend meetings of the Danshukai society. They use the “kaikan therapy” of Shinshu Buddhism. Alcoholics are encouraged to reflect on past behavior, and to develop an awareness of family love. A love outside of yourself counteracts loneliness and keeps drinkers sober.

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