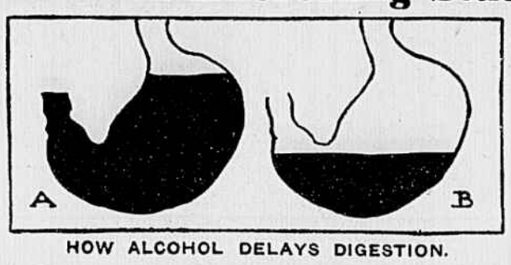
NEW DISCOVERIES ALL OVER THE EARTH

Science Explains "PERIODICAL SPREES"

An Interesting Study of Why Men of HIGH CHARACTER Have Occasional LAPSES



HOW ALCOHOL DELAYS DIGESTION.

A—Stomach of An Alcoholic, Showing the Amount of Food Remaining to Be Digested Six Hours After Eating. B—Stomach of a Non-Alcoholic, Showing the Much Smaller Percentage of the Same Quantity of Food Remaining at the End of Only Three Hours.

WHY are so many men, and occasionally women, of otherwise high character, unable to resist the impulse to go on occasional sprees? This is one of the most serious questions modern civilization faces. Until it can be answered satisfactorily no certain remedy for the difficulty can be devised, and until such a remedy is devised, thousands of lives will be ruined all the time, and the world will be periodically deprived of ability which might be put to excellent use.

Unthinking persons and foolish theorists say that simple vice is the real cause of the economic and moral loss which the world suffers from sprees. It is, they maintain, an outbreak of the animal instincts, and the beast part of the man which impels him to go every now and then on a debauch.

Science, however, is beginning to take an entirely different view of the matter. It finds abundant evidence to show that the spree is a result of the gathering and breaking of morbid energies and activities in the brain and nerves, and is governed by distinct physical laws.

According to Dr. T. D. Crothers, who discusses the subject of sprees very interestingly in the Medical Record, the drink victim who abstains for distinct periods and then suddenly breaks out with insane cravings for spirits, is an example of those little understood cyclic degenerations which are found in neuralgia, epilepsy, some of the insanities and other diseases.

There are all kinds of sprees, says Dr. Crothers. At one time it is a delirium, intense, overpowering, and irresistible and then a period of quiet rest, sanity, and complete control comes on. At one time it is the rigid moralist, strict abstainer, and sound, strong man, who goes on a debauch. At another it is the excessive drinker, immoral, dishonest, without character, and reckless of his acts and conduct.

In the distinct periodical drinker the free intervals are very often definite as to time, varying from one week to several years, and in many cases breaking out at intervals that are as fixed and unvarying as the movement of the stars. In others this interval of freedom from the drink craze is variable, and in some cases depends on certain conditions which may be often forecasted, controlled, and prevented.

There is a small class of persons in whom the drink impulse appears as mysteriously as the flash of lightning in a cloudless sky, with no premonition or hint of the coming attack. Often it disappears in the same mysterious way.

In what may be called the insane impulsive periodic inebriates, the free interval is an unknown condition, and the return of the drink craze is abrupt and unexpected. The man will drink and become crazed at the most inopportune time, on the eve of marriage or some great social, political, or literary triumph, or some business success, or on a public occasion, or at a funeral, where his condition is most disastrous for his future.

The reaction when this obsession disappears and the sudden realization of the losses may precipitate suicide. The remorse is so intense that death is preferred. Others, when the drink craze passes off, show the most intense anxiety to explain and minimize the losses which they have suffered, and also make earnest efforts to convince their friends that this will never occur again.

The memory is usually vague, and events of the past are uncertain and cloudy. In others the memory is clear and intact. The reason and judgment seem to have been suddenly arrested, and on recovery display unusual activity to promote total abstinence in the subject and his friends. The extreme delirious excitement to help others and to show the dangers from alcohol, and promote the cause of total abstinence, so prominent in revival meetings, is not infrequently the after effect of previous alcoholic excesses.

Another class of these periodics exhibit distinct premonitory symptoms of the drink craze, although, curiously enough, they are unconscious of them. The more common of these symptoms are degrees of unusual excitement or depression, great business energy or unusual apathy, perhaps exaltation of the emotions or depressive states, with fears of poverty and sudden death.

Another class of periodics will have premonitory symptoms of childish reasoning and credulities of the presence of some disease, which will eventually suggest spirits as a remedy. They are often very strong persons, in apparent good health.

An example was that of a very prominent lawyer who counselled with many physicians, complaining of most obscure and complex symptoms. Then suddenly he drank to great excess, and after a few days recovered without any recollection of his previous alarm.

It is a question whether the persons always understand that at such an interval they they must drink spirits to excess. When they do there is evidently a preparation for this event, and a degree of expectancy which makes it more exact and positive.

In some instances persons show unusual anxiety to help others or take up some reform work with great energy, ending in a drink attack. Probably this is done in an effort to break up the imperative conception of the oncoming drink craze.

Probably over 60 per cent of those who are addicted to sprees have a neurotic heredity in which insanity, epilepsy, inebriety, idiocy and various other diseases are traceable in the parents and grandparents. Why it should take on the form of a craze for the narcotism of alcohol is not clear. In all probability this may be dependent on the errors of environment, nutrition, and faulty mental training.

These periodicities seldom appear until after twenty years of age, and often subside or merge into some serious degeneration before fifty. At first the length of the paroxysm is brief, confined to a few hours. Later it increases, extending over two or three weeks, then finally becoming shorter and less intense.

The periodic drinking, based on a neurotic heredity, frequently merges into epilepsy, paresis, and forms of insanity, marked by exaltation and depression. The drink craze not infrequently dies away, but obsessions remain, sometimes concentrating on widely differing objects. Thus a periodic drinker developed a craze for building houses, which extended over many years, each year building a new house for himself, with different designs and rooms.

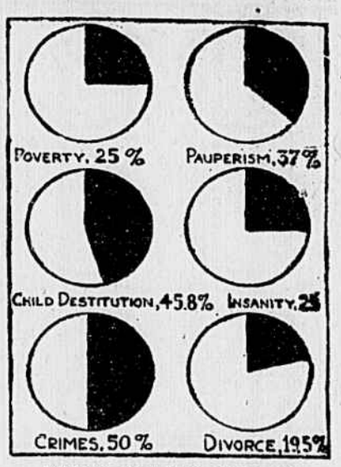
A number of persons have been noted who began in early life to drink at intervals, and a few years afterward gave up spirits, and developed into paranoiacs, defectives, eccentrics, and men at times very sharply unbalanced.

The impulsiveness of conduct, sentiment, and reason, so prominent in many persons, are all phases of these mysterious cycles of brain activity. Spirits, either as a medicine or as a beverage are exceedingly dangerous for such persons.

The alcoholic who has used spirits to the point of poisoning is amenable to treatment, Dr. Crothers believes with every prospect of restoration and cure.

The periodical return of the drink paroxysm can be broken up by a great variety of means. The fact that one at intervals is possessed with the desire for drink is a very serious one, and should not be treated lightly. The fact that one is able to stop after the period is over is no evidence of strength, but is decidedly suspicious of a very grave spasmodic disease that will terminate fatally.

Such persons should be taught the gravity of their condition and encouraged to seek help from the physician on the first approach of the paroxysm, and in this way break up its return, then become built up and restored so as to overcome the next onset.



WHAT SPREES COST US.

The Diagrams Show the Percentage of Poverty and Other Evils Which Temperance Advocates Charge Is Due directly to the Drink Habit.

This Earth HAS OVER 4,000 TONGUES

HOW many men, if asked how many languages were in the world, could give anything like an accurate answer? The average man's knowledge or ability to speak languages rarely exceeds two besides his native tongue, yet we find that Emperor Francis Joseph, when visiting a Red Cross hospital, recently spoke with the patients in their own languages, which shows the aged emperor to be master of six.

It may appear strange, but it is nevertheless true that there are over four thousand languages spoken by mankind, while the number of dialects exceeds this. There are more than sixty vocabularies in Brazil, and in Mexico the Nahua is broken up into some seven hundred dialects. There are hundreds in Borneo, while in Australia there is Austrlia there is no classifying the complexities.

Let us assume that fifty dialects, on an average, belong to each language, and we have the colossal total of a quarter of a million linguistic abilities.

A century hence the probability is that there will only be four languages of importance in the world. Central Europe may produce a newer and more straightforward German language, Imperial English may reign alone over the North American Continent, while a more businesslike Spanish will be used in South American states. Russia will probably take on some more rich Slavonic dialect, which will blend the races of Eastern Europe and Central Asia into a harmonious federation. So that in future these four languages will enter into what may be a never-ending competition.

According to the latest statistics, English is at present spoken by 130,000,000 persons, German by 100,000,000, Russian by 70,000,000. French by 45,000,000, Spanish by 40,000,000, and Italian by 30,000,000. Spanish is growing most in use just now, owing to the necessity for it in carrying on th ecommerce of such countries as Germany, England and the United States. But the supremacy of English will remain secure for a long time to come, particularly if, as is confidently predicted, it becomes the language of Japan.

HOMESICKNESS KILLS Soldiers as Surely as Bullets

PAINSTAKING attention to a multitude of little things is the price of victory in modern warfare. Nothing that might in any way contribute to the soldier's health and good spirits is too trivial to be neglected.

His teeth and feet must be kept in good condition; he must have nourishing food to eat and pure water to drink; and, if he smokes, there must always be a pipeful of tobacco in his pouch. It is even necessary to guard the man in the ranks against attacks of homesickness.

Homesickness, or nostalgia, as the doctors call it, has long been recognized as a specific military disease which is especially liable to attack recruits. It leads to desertions, sickness and death; and, although it never claims as many victims as the bullet or the typhoid germ, it is quite capable of enough harm to impair seriously an army's efficiency.

The bad effects of homesickness in an army were first noted among Swiss soldiers three hundred years ago. Writers of that time mention that the Swiss were forbidden to sing or listen to their native melodies for fear of arousing in them an overpowering longing for their mountain homes. A doctor, writing in 1688, gives some samples of this music, and cites many instances of its extraordinarily fatal effects.

In 1837 Dr. Paulinier, a French scientist, published a book on the effects of homesickness on soldiers. He describes the pallor, taciturnity, absolute dejection, loss of appetite, and so forth, which mark the disease, and adds the curious observation that in the great wars of the French republic the illness was unknown owing to the enthusiasm of the soldiers for France, every inch of which had become home in their regard.

Later, when the Napoleonic wars had sapped the vitality of the nation, homesickness became almost epidemic among the boy recruits of 1812 and the following years.

Writing as lately as February, 1863, an American army surgeon, De Witt C. Peters, speaks of the prevalence of this form of melancholia among young recruits drawn from the Eastern States of the Union and sent to fight in the, to them, enervating climate of the South.

"The hospitals of New Orleans," he says, "during the past Summer were filled with such cases. The majority of them were young men from the Eastern States, whose love of home and kindred is a characteristic trait."

His definition of the symptoms tallies with that of his predecessors. "They are," he says, "first, great mental dejection, loss of appetite, indifference to external influences, irregular action of the digestive organs and slight hectic fever. As the disease progresses it is attended by hysterical weeping, a dull pain in the head, throbbing of the temporal arteries, anxious expression of the face, watchfulness and increased fever and wasting. Among young prisoners of war it is the worst complication to be encountered, as the writer can truthfully affirm."

Italian authorities regard homesickness as a disease which is confined to recruits, but English physicians have noted cases of it among soldiers who had seen long service in foreign lands.

Why DENMARK'S SCHOOLS Are BETTER THAN OURS

ONLY one person in 1,000 in Denmark is unable to read and write, as compared with seven out of every 1,000 in the United States. Of 260,000 Danish children of school age only 370 failed to attend school during the year 1911. These and other significant facts are brought out by H. W. Foght, of the United States Bureau of Education, who recently visited Denmark to make personal investigations concerning school conditions.

Compulsory attendance at school between the ages of seven and fourteen is so strictly enforced in Denmark that "the few who persist in avoiding their legal responsibilities are punished so severely that they are glad enough to change their minds."

According to Mr. Foght, the Danish schools are run six days in the week, giving at least 246 school days to the year. The people are so imbued with the value of education that they will go to any extremity to keep their children in school.

School life is made attractive by giving a large place to popular songs. "All teachers," says Mr. Foght, "must be able to instruct in music, whether they can sing or not. The teacher almost invariably accompanies the songs with a violin, which all teachers know how to use." School music includes patriotic, religious and folk songs.

Danish schools do not use a spelling book. Spelling is taught as a part of the reading process. Grammar is likewise taught largely through "doing," as Mr. Foght expresses it. Dictation is given from some classic; this is then analyzed and the rules of grammar are applied as needed.

Children at Danish schools wear slippers and the girls wear short bloomer-like skirts. In their physical exercises, which have a prominent place in even the rural schools, the peculiar dress of the girls serves them well in giving freedom of movement.

Mr. Foght says that the secret of Denmark's high place in educational affairs lies in the hold which the teacher has upon the entire people. Every teacher is a professional teacher. The salaries are among the highest given to any class of workers. Teachers' houses, with valuable pieces of land attached, are furnished in addition to the already liberal salaries. Teaching is, from every standpoint, made honorable in Denmark. The teacher has high social ranking is a leader in both church and state, and is invariably pensioned for disability or age.

Teachers so thoroughly equipped and working under such happy conditions very naturally exemplify a high order of teaching. Mr. Foght says: "The Danish teachers draw upon their broad, general reading and experience for much of the classroom materials, instead of depending upon textbooks to furnish everything required."

SCIENCE NOW KNOWS--

Paper for Warmth.

IN 1870 the French army kept themselves warm during the Winter campaign by padding their uniforms with newspapers. Even to-day the Japanese soldiers on active service wear paper shirts. These facts lead French scientists to recommend that the army be supplied with paper undergarments.

Magnets to Save Soldiers' Lives.

A FRENCH army surgeon has, with the aid of an extraordinarily strong electromagnet, recently performed several successful operations without the use of an anaesthetic. A casing of ferro-nickel surrounds the German cartridges, and the electromagnet simply draws them out of the wounded man's body, as well as splinters of shell. The fact that the men are able to stand this operation without any anaesthetic is in itself a great saving of life.

What Disease Costs Us.

PROF. IRVING FISHER estimates the economic loss to the country from preventable diseases at $1,500,000,000 a year. In Minnesota estimates recently made by the State Board of Health place the annual loss from typhoid fever and tuberculosis alone at $14,757,043. In making this estimate the following economic values were used in computing the financial loss from deaths: Professional business men and farmers, $500; skilled laborers, $300; unskilled laborers and domestics, $200; married women, $200; children under fifteen years of age, $100. These valuations are conservative and probably represent the minimum rather than the maximum loss.

ACORNS and HORSE CHESTNUTS to Make FAT COWS and PIGS

IF the farmers of America follow the example that is being set them in England they will use the millions of bushels of acorns and horse chestnuts which now go to waste every year as food for some kinds of live stock.

Years ago it used to be the custom in England to collect acorns as food for pigs and to turn cattle out under the trees to feed on them. Lately, however, this practise has been largely discontinued owing to fear of "acorn poisoning," which it was thought often proved fatal to cattle.

Experts of England's Board of Agriculture now find that while there is some risk of injurious effects from feeding large quantities of acorns to young cattle, they may be safely used as food for cattle over three years old and also for sheep and pigs. When in sound condition and given judiciously, acorns will do live stock no harm and are recommended as a valuable addition to the diet. "Poisoning" will follow only when they are eaten in very large quantities and without an adequate supply of water and other food.

The food value of acorns lies chiefly in the large quantities of digestible carbohydrates which they contain. On this account they would form a useful supplementary food to green fodder, and to such foods as are rich in protein, and they could, to a certain extent, replace in the ration grains and other foods rich in carbohydrates.

It is not safe to feed fresh acorns in any considerable quantity to dairy cows or young cattle. Where pigs are driven into the woods to feed on acorns they must be given green or other supplementary food which will supply a sufficiency of phosphates and lime, of which acorns contain only small quantities. Special care must be taken to keep cattle from pastures where unripe acorns have been blown down.

Drying the acorns improves the flavor and reduces the risk of illness. Acorn meal, prepared by grinding the kernels after drying and then separating them from the cracked husk by sifting after roughly crushing, has a feeding value approximately equal to that of barley or oatmeal. Care should be taken not to feed any mouldy acorns.

There is nothing to fear from the use of horse chestnuts as food for live stock for there is nothing poisonous about them. They may be fed whole but should preferably be crushed, particularly when fed to pigs.

When fed in any quantity the best results will be obtained by making meal of the chestnuts. To do this the nuts are boiled for half an hour or so after being soaked in cold water over night. They are then dried, husked and ground to any desired fineness.

This meal is a fairly concentrated food and is very useful for fattening animals. A pound of it contains more starch than the same quantity of barley, oats or bran and nearly two and one-half times as much as a pound of good meadow hay.

How BABY'S UGLY HARE-LIP Can Easily Be MADE OVER

ENCOURAGING progress is being made in the treatment of hare lips. The operation necessary to restore them to normal conditions is so comparatively simple that no child who is unlucky enough to be born with this deformity needs to carry it through life.

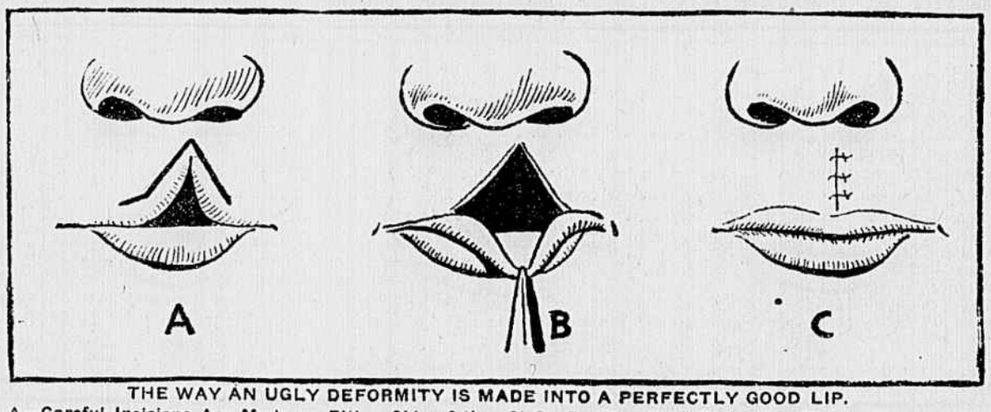
What is known as hare lip is a fissure or cleft of the lip, due to an arrest of development. It most often occurs on the upper lip, and when it consists of only one fissure instead of two, it is for some unknown reason usually found on the left side. The deformity may consist of only a slight notch in the lip, or it may extend clear up into the nostril and be associated with a cleft palate.

A hare lip is not only one of the ugliest deformities, but it interferes seriously with speech, and often makes eating and drinking so difficult that the child is deprived of sufficient nourishment.

Dr. William Francis Campbell, a Brooklyn, N. Y., surgeon, who has had marked success in the treatment of hare lips, recommends that they be operated on as soon as possible after birth. The earlier the operation the more plastic the tissues and the more rapidly they will repair themselves. Besides, at an early age the risk to life is trivial, as a new born baby's vessels are so small that the loss of blood will be very slight. Still another reason for operating early is found in the fact that this will help insure the normal development of the bones of the face.

No preparation for the operation is necessary beyond having the child's face clean. Anaesthetics are not given.

First, the surgeon carefully frees the soft parts of the lip from the bone. Then with a small knife he makes incisions on each side of the cleft from the nose down to the line of the lip, leaving the bases of the flaps attached.



THE WAY AN UGLY DEFORMITY IS MADE INTO A PERFECTLY GOOD LIP.

A—Careful Incisions Are Made on Either Side of the Cleft. B—The Two Flaps Are Drawn Down with a Forceps. C—The Edges Are Sewed Together with Silk or Linen Thread.

The incisions must be exact and well defined, and furnish a broad surface for stitching. If they are made as rapidly as the skilful surgeon will find it possible to do, there will be little danger of too much blood being shed. If bleeding does give trouble it can be easily controlled by having an assistant compress the coronary arteries with his fingers.

The next step is to pull down the flaps and sew the opening together through the entire thickness of the lip with silk or linen thread. The stitches should not be tight enough to cut through or compress the tissues, and the line they follow should be so exact that it will present no pockets in which particles of food can collect and decompose.

That is all there is to the operation, except to dress the lip. The dressing should remain in place for seven days, when the stitches can be removed.

For the first twenty-four hours after the operation the baby should be given only sterile water, for milk is very favorable to the growth of bacteria. It is also a good plan to protect the wound from the child's fingers by putting splints on the arms. The habit of sucking the fingers might easily spoil all the good results attained by the surgeon's knife and his needle and thread.

STEP LIVELY and Get SCIATICA

ACCORDING to Dr. A. P. Firth, a well-known osteopathic physician, the brisk "step lively" of street car conductors and starters is undoubtedly responsible for a large proportion of the painful sciatica which is becoming increasingly common nowadays.

Straining to climb high steps, even slowly, is very bad for persons inclined to be feeble or stiff-jointed, but when the stimulus of curt order to hurry is added the exercise becomes even more dangerous. Every osteopathic physician meets frequent cases of trouble so caused, and the complaint has come to be known as "step-lively sciatica."

When we lift a foot and knee to climb a step we tilt the pelvis or hip structure up on one side. This imparts a wrench to the sacro-illiac joint and there is a certain amount of play between the spinal column itself and the two flat inominate bones which make up the pelvis.

When the joint belongs to a young and vigorous person these bones usually move in their proper grooves and there is no trouble even though the joint is severely wrenched. If, however, they belong to an old and feeble person whose ligaments are weak and whose tissues are relaxed, the joints are likely to be bent far beyond the extent to which they were intended to move, the ligaments are stretched and the joint partially dislocated. When this has happened once and the sacro-illiac ligaments which bind the joint together have become stretched the joint slips out of its proper alignment with very little provocation.

When this sacro-illiac joint is dislocated its effects are not immediately noticeable, but the large and important sciatic nerve which issues from the spinal column in this vicinity is nearly always pinched by one of the dislocated bones.

Now it is a peculiarity of nerve tissue that when a nerve is interfered with pain is felt not at the point where the nerve is touched, but at its termination. Consequently the pain from a dislocated innominate is not felt at the sacro-illiac joint itself, but in the whole lower back and upper thighs.