

Herald of Health

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CONTENTS

Articles	Page
EDITORIAL	
The Evil Effects of Pan...	271
GENERAL ARTICLES	
Motion Picture, Eye-Tis	273
Dealing with an Influenza Cold	274
Digestive Disorders	276
Are Green Fruits Indigestible	280
THE HOUSE WE LIVE IN	
The Changes of the Air in Respiration	281
HEALTHFUL COOKERY	
Soups	282
MOTHER and CHILD	
Making Our Girls Home Lovers	284
Women Know Little About Cooking	286
NOSTRUMS	
Skin Diseases	287
CURRENT COMMENT	
Public Health in Birmingham—Plague Prevention in the Irrawaddy Division—How Americans Spend Their Money—Tobacco and Inebriety—Reducing the Meat Diet—Smoking in Public Places	288-290
WHAT TO DO TILL THE DOCTOR COMES..	291
NEWS NOTES	295

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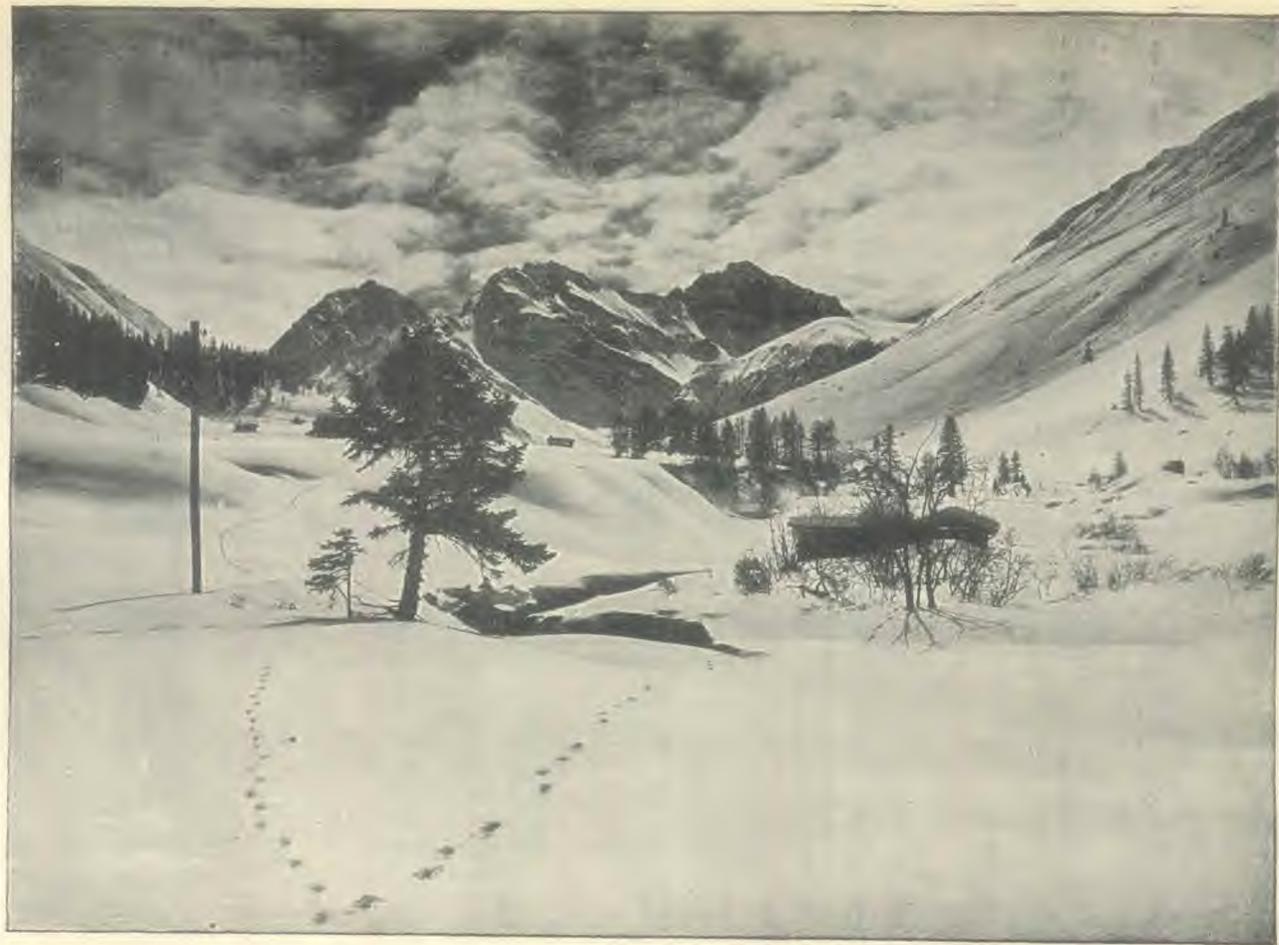
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IN THE GARB OF WINTER

HERALD OF HEALTH

The Indian Health Magazine.

V. L. Mann, M. D., Editor

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No. 11

Evil Effects of Pan

THE chewing of pan is a very wide-spread habit in India. Men and women, young and old indulge in it from morning to night. Its use is so general as to have become a matter of etiquette. Indians rarely go out without their betel boxes, which are presented to one another. The chewing of betel is a practice of great antiquity and can be dated back at least 2400 years.

The habit is indulged in freely under the erroneous idea that it is beneficial to the system. Some have represented it as encouraging the production of saliva, strengthening the digestive powers, and warding off attacks of fever. Later we will examine these assertions made in its favour.

Pan as used by the Indian people consists of a leaf of one or another of certain species of pepper, to which the name betel pepper is indiscriminately applied, plucked green, spread over with moistened quicklime (Chuna) generally procured by calcination of shells or lime and wrapped around a few scrapings of the areca nut sometimes called the betel nut, and also known as Pinang. Spices, tobacco, and catechu and other drugs are sometimes added. This is put into the mouth and chewed.

The betel comes from the Tamil "Vettilei" meaning literally a mere leaf. The pepper betel is a climbing shrub with leathery leaves which are heart shape in

some species while in others they are oblong. The active principle of this plant is called piperine.

The areca or betel nut comes from a species of the palm. The fruit is a fibrous one seeded nut with an outer fibrous husk. It is about the size of a marble, smooth orange or scarlet in colour. The fibrous husk is about $\frac{1}{4}$ inch thick. The nut contains two drugs that are stimulant and narcotic in nature. Arecaidine is a crystallizable substance. Arecoline another constituent of the betel nut is an oily, liquid substance.

Let us follow the effects of these different drugs upon the system. There is Piperine in the leaf, arecaidine and arecoline in the nut, the lime, catechu and any other narcotics that the individual may choose to add to his accustomed habit.

Piperine is a local irritant causing when taken into the mouth intense burning and pain, and when confined upon the skin counter irritant, blistering and finally, if the contact be very prolonged more destructive changes. Internally when taken in large doses it causes burning pain in the stomach, increased activity of the circulation, and a species of intoxication.

This drug of which the chili is a species is lauded very highly as a factor in the increase of the juices of the stomach and intestines. This is an erroneous idea. It does not permanently increase the digestive powers, but simply increases the action

for the time being. Later it paralyzes the nerve endings in the stomach. It lowers the pressure at which the blood is maintained and acts directly upon the muscles of the heart as a depressant. It not only paralyzes the nerves of the digestive tract but also the other nerves of the body.

Arecaidine, contained in the areca or betel nut is a very active stimulant and poisonous drug. The symptoms produced by it upon those unaccustomed to its use are nausea, vomiting, giddiness, intense discomfort, with weakness. If the dose has been sufficient, by burning pain in the stomach, purging, free urination, extreme giddiness, passing into delirium, a rapid running and finally imperceptible pulse, cramps in the limbs, absolute loss of muscular strength, a cold clammy skin, and finally complete collapse, terminating in death. It has a very pronounced effect upon the eye causing contraction of the pupil by paralyzing the nerves concerned in its regulation.

The moistened quick lime used in Pan is an active caustic. It is so powerful in this respect that it will eat up the flesh and bones of the body when brought in contact with it for a sufficient length of time. One can imagine what such a powerful caustic will do to the delicate lining of the digestive tract when used continuously over a long period of time.

"Catechu" known in India as "Katha" is procured from the Acacia tree. It is obtained from the heart-wood of the tree by cutting it into small chips and boiling in water until the extract has reached the proper consistency. It is a powerful astringent, causing contraction and in the case of the lining of the mouth, stomach and intestines great dryness. When freely taken into the system, its irritating properties sometimes cause diarrhoea. In sufficiently large doses, pains in the abdo-

men, vomiting, and general weakness have been noticed.

We have followed closely the acute effects of the different ingredients of Pan. Let us now examine and follow some of the effects of the continued use of this obnoxious practice. The teeth are stained black, they lose their bony and enamel construction so that often at an early age they become loosened in the sockets and can be pulled out with the fingers and the individual becomes toothless. The delicate taste buds located upon the tongue are destroyed. This deprives the user of those delicate sensations of taste that are common to the undefiled mouth. Do you think for a moment that one whose mouth and nose are affected by the narcotic poisons of pan can fully appreciate the taste of luscious fruit or the wholesome smell of the flowers?

The continued use of Pan destroys the glands located in the lining of the stomach and intestines whose duty it is to manufacture juices for the digestion of the food. The juices are lessened and chronic indigestion is the result. The muscles of the stomach and intestinal wall lose their tone. The motility of the digestive tract is therefore interfered with and constipation, or sluggishness of the bowels is manifest. This condition of affairs causes headache, loss of appetite, sleeplessness, pain in stomach and intestine, gas formation, mental dullness, and a host of other symptoms.

The Pan user thinks that his habit does him good. He notices that after he becomes accustomed to it, if he leaves it off, he suffers severely. He concludes from this that his Pan is a benefactor. While apparently promising him well being, it is working havoc and destruction upon the system. The human organism kept up by stimulation is like a man walking on stilts. When his props are knocked out

(Concluded on Page 294)



General Articles



Motion Picture Eye-Tis

HOWARD C. KEGLEY

THE motion-picture industry, which originated less than two decades ago, but which now represents investment of at least sixty five million dollars, constitutes a new and very serious menace to the health of the nation. An increasing amount of eye trouble among young people has been noted by oculists and opticians during the past few years, and specialists who have traced it to its source declare that a large per cent of it is due to the fact that a great majority of the children throughout the land are victims of the motion-picture craze.

Motion pictures have a serious effect upon the ocular muscles by reason of the absence of colour vibrations, and on account of the flickering that results when the pictures are projected upon the screen. Eye strains result in headaches, and headaches result in more serious forms of nervous derangements, which are apt to work havoc with the health of the rising generation.

Manufacturers of motion-picture machinery and films the world over are exerting every effort to produce material that will not be so productive of tired eyes; but up to the present no means has been devised to eliminate entirely the flickering of pictures and to supply the colour vibrations so necessary to perfect vision. Thus far, the camera craft has been unable to imitate the various colour effects that nature provides for us, and the chances are that these colour effects never will be reproduced through the lens of a camera.

Motion pictures are optical illusions brought about by projecting, in rapid suc-

cession, a series of pictures upon a screen produced by means of a physiological phenomenon styled "vision persistence." The turning of a wagon wheel furnishes an admirable illustration of vision persistence. When the wheel remains stationary, the eye may rest upon one or more than one spoke; when the wheel revolves slowly, the eye may rest upon several spokes; but if the wheel revolves a little faster, the eye will cease to follow a few spokes and begin to follow many. Then if the wheel revolves at a more rapid rate of speed, the spokes will all appear indistinct and blurred. They will not blur, however, until they reach a speed at which the eye is incapable of following them. To a pair of poor eyes the spokes will blur when they are passing a given point at the rate of three hundred a minute, but some eyes will follow them until they revolve at the rate of one thousand a minute.

The motion picture of the present day is a long film of separate and distinct photographs carried past a projecting lens so rapidly that they deceive the eye. Is it any wonder that an illusion is produced when pictures are projected upon a screen at the rate of twenty a second? Such films as are used in motion-picture cameras are usually one thousand feet in length. The edges of the films are perforated to fit the sprockets of the projecting apparatus. With his camera so timed that it will make several hundred pictures a minute, the motion-picture photographer clears the deck for action, and turns the crank that draws the film past his lens. Then

the film is developed and made ready for use.

When the film is wound on a reel and placed in the projecting apparatus, the perforations are fitted to a pair of sprockets, and the loose end of the film is fastened to an empty reel. The projecting apparatus is then thrown into gear, the operator starts to turn the crank, and the show begins. In front of the lens is a little shutter that revolves rapidly in order to cut off the light between adjacent pictures. That shutter causes the flickering; but it must perform its function, or else the film would be nothing but a passing panorama of motionless pictures. Each time the shutter revolves, it produces the same effect that you get if you blink your eyes. The flickering effect is a natural result, and a fortune awaits the man who can figure out a way to eliminate it.

It is difficult for the eyes to view motion pictures for a length of time without suffering injury. The degree of vision persistence required to follow motion pictures overtaxes the eye, the flickering produced by the cut off shutter adds still more to the strain, and, unless the ocular muscles are unusually strong, "motion picture eyes" are the result.

Sharp contrasts between black and white shadows in motion pictures have a bad

effect upon the vision; and films that have been used too much, being dim and indistinct, injure the eyes.

It may be added that coloured films are less injurious to the eyes than ordinary motion picture films, because of the presence of colour vibrations. One who attends motion-picture shows can testify that the eyes feel more comfortable when looking at coloured pictures than when looking at black and white ones.

Summing it all up, there is reason for believing that the coming generation will pay dearly for the pleasure it is deriving from motion picture shows. The price of admission to picture shows is very small, and there are those who can afford to attend regularly, but the time may come when the money thus spent would come in handy to pay an oculist for correcting an error in vision, or to hire a specialist to repair a nervous system deranged by eye strain.

Directors of many public schools have adopted the plan of exhibiting motion pictures in assembly-rooms for educational purposes, but it is doubtful whether the benefits thereby afforded justify the injuries that the eyes of the schoolchildren are almost certain to suffer as a result of motion-picture courses of study.

Dealing with an Influenza Cold

JOHN SMITH was a man who took good care of himself. He was regular in his habits, ate moderately of plain dishes, skipped the indigestible things, and prided himself on being able to keep in good working order by commonsense adherence to the ordinary rules of hygiene.

"No medicine for me," he said. "I used to take it, but I have learned how to get along without it. If I find myself lacking appetite, I eat fruit and skip a meal. I exercise freely, eat fruit, spinach, and vegetables if I find any tendency to-

ward constipation, and never miss a day at my job."

John's job was selling goods on the road. One day he found an old customer absent from his place of business.

"He is up at the house," said the clerk, "sick with an influenza cold."

"Could I telephone him?" was John's question.

"Sure," was the reply.

In a moment the connection was made.

"Are you too sick to talk business?" said John with the familiarity of an old friend.

"I don't feel very well, but you can come along up if you want to."

In a short time John was there. His friend and customer was dressed, but looked pretty languid.

"I suppose you know I have an influenza cold," said he. "If you come in, you may probably get it."

"Get nothing!" said John, and marched in. His customer gave him a good order, and he went out feeling very cheerful—a cheerfulness which continued during the next day. It even lasted over the second day. But the third day discomfort began. His eyes began to weep; his nose to run; and a numbness, smarting, and tingling was felt in the back part of his head and above his throat.

"That fellow was right," muttered John. "I certainly picked up some germs, but I guess I can stave it off."

He resorted to his usual regime—a very light diet, a little extra out-door exercise, and long walks in the fresh air. This method kept his appetite good, his digestion in fair shape, but it did not stop the malicious work of these little germs which certainly had secured a lodgment in the back of his head, and not only made his eyes weep, but made him have the unpleasant feelings of a real attack of influenza.

"Awfully bad time of the year to get a big cold fastened on," said John who had long since learned to take care of himself in order to keep in good working order. "I can spare a couple of days now better than I can spare a couple of weeks a little later on. Here goes for the sanitarium."

At the sanitarium they were glad to see John, for they had seen him before, but they were sorry he had a cold. He arrived at six, ate a little lunch, and at eight o'clock he was in the men's bathroom, every stitch of clothes removed, his feet in a hot foot bath, and a short folded blanket wrung out in very hot water ap-

plied to his chest. The hot foot bath was renewed every five minutes, keeping it as hot as John could bear it.

"What's that?" said the patient to the lightly clad attendant.

"Another hot one," said the young man.

"You are certainly right," said John, as the steaming mass was pushed down on his skin, covering his entire chest and a portion of his stomach. He felt very comfortable a moment later, however, and the almost immediate relief of the distressing head symptoms was noticeable. The hot foot baths and the hot fomentations continued for perhaps fifteen or twenty minutes, until John was enjoying a comfortable perspiration.

A Douche and Spray for a Cold

"Do you know what a douche is?" said the attendant.

"Yes," said John. "Let'er go."

A stream of warm water from a hose struck his legs, up one leg, down the other, gradually growing hotter, and soon ascending his spine to the very nape of his neck, up and down, up and down, hotter and hotter, making him squirm a little at first, but giving on the whole a sensation not unpleasant.

"Now cold," said the attendant, and gradually the temperature was reduced until the surface was cooled, when the warm and hot were again applied. This alternation of the hot and cold, with the peculiar pounding effect caused by the force of the stream, has a marked influence on the nervous system, and stimulates powerfully all the body functions.

The douche treatment was followed by an "alternating spray." The spray is familiar to many people. It is a sort of "bath," in which upright pipes filled with small holes surround a person who steps in and receives needle-like streams of water under pressure on every part of his body at the same time. Here also the sensation after the first moment is not un-

pleasant. One feels as though the surface of the skin were receiving a thousand gentle pricks at the same moment. Hot first and then cold; hot again and cold; alternating from cold to hot, so that the perspiration of the hot foot bath and of the fomentation is neutralised without chill and without discomfort.

Rubbed thoroughly dry, and tucked into bed, John Smith muttered, "I really believe that cold feels better already."

The Second Day

The following morning John was really hungry for breakfast, although the inflammation in nose and throat was still much in evidence. In the middle of the morning he was called to the bath-room for another "treatment." This time it was a "fomentation" to the feet and to the spine. John lay prone upon his face on the cot. A hot flannel blanket steaming from almost boiling hot water was wrapped about his feet, and another one, folded, was laid on his back. If John complained of the heat, the attendant lifted the fomentation promptly, or passed a cold towel over the hot place. In a few moments a wonderful sensation of comfort stole over the

patient, and he was sorry when he was requested to get up.

Led to another portion of the bath room he was asked to step into a tub of hot water while the attendant rubbed his whole body with salt, producing a feeling well described by the name of the treatment itself—a "salt glow." This treatment ended with alternating douche to the legs; the same as the night before. This was followed by an alcohol and oil rub designed to dry the skin, and stimulate it so that there would be no danger of taking cold.

"That was a good treatment," said John. "It leaves me feeling fine."

In the afternoon he was given full massage—a treatment which stimulates the muscles to work in throwing off any kind of germs of effete matter.

Next morning an electric light bath followed by a douche, a spray, and an oil rub, completed the course.

"Let me see," mused John as he paid the moderate bill, "didn't I have a cold night before last? This is better than chills!" All of which is a literal record of a real experience, except that his name wasn't Smith.—*Healthy Home*.

Digestive Disorders

D. H. KRESS, M. D.

VERY few reach adult life without the consciousness of possessing a stomach. The average boy or girl is able to locate accurately the organ without the aid of an anatomy. Americans possess the reputation of being a race of dyspeptics. It is safe to say not less than seventy-five per cent of them are afflicted with some form of digestive disorders. Many of the bodily and mental maladies find their true explanation here, for these digestive disturbances are not merely responsible for numerous aches and pains, but for much of the unhappiness found in our American homes. Back of nearly every form of

digestive disorder is the food, and back of the food is the cook. What the inmates of the home are physically and morally may usually be determined by what the cook is. Give us thoroughly trained and intelligent cooks and the cure of nine tenths of all the dyspeptics may be assured without medicinal treatments.

Liebnitz, the German philosopher, said: "As regards internal medicine, I hold that this is a mere art like that of playing backgammon. I have often wished that a skilful physician would write a book about curing diseases by means of the diet." "A good cook," said Dr. Andrew Boorde

in 1536, "is half a physician." The importance attached to this art at one time may be judged by the following: John Evelyn, in his "Acetaria" (1699), says, "We read of divine popes and emperors that had some-times learned physicians for their master cooks." Sidney Smith in 1837 wrote: "I am convinced that digestion is the great secret of life; and that character, talents, and virtues are powerfully affected by beef, mutton, pie crusts, and rich soups. What God has joined together, ill-cooked joints and badly boiled potatoes have often put asunder."

At the International Health Exhibition, London, 1884, Dr. Andrew Blyth, in his Authoritative Manual, issued by the council concerning "Health by Diet," said: "When by successive researches the science of diet has become better understood, without doubt a school of physicians will arise, discarding all drugs and treating all maladies by cutting off certain foods and by surfeiting with others," "There are diets," he said, "for every age, for every climate, for every species of work, physical or mental; there are diets by which diseases may be prevented and cured, there are diets fitted for some constitutions, injurious to others; diets which make the skin glossy, the frame vigorous, and the spirit joyous; others which mar the face with wrinkles, speckle the body with eruptions, and make the form lean, hollow, and prematurely old." A well known authority has said: "Only one man in a million dies a natural death. We should live until one hundred forty years of age. A man who expires at seventy or eighty is the victim of an accident, cut off in the flower of his days; and he unconsciously resents being deprived of the fifty or so which nature still owes him. Leave him awhile longer, and in due season he will desire to depart, as a child at bedtime desires to sleep."

It is not the food but the poisons that

are formed in the alimentary canal resulting from its indigestibility, or improper combination, that are responsible for ill health and bad tempers.

Digestive disturbances are not *always* due to dietetic errors; mental influences play an important rôle in digestive process. Faith, courage, and hope act as a normal stimulus to digestion. Anger, fear, worry, and anxiety act as depressants.

They lessen the production of gastric juice and inhibit the mechanical movements of the stomach. Dr. Cannon was able to arrest entirely the rythmical muscular movements of the stomach of a cat by annoying her. Dr. Pawlow found he could check the flow of gastric juice of a dog by similar means.

Good cheer is a most potent aid to the digestive organs, for "a merry heart maketh" not merely "a cheerful countenance" but a cheerful stomach, capable of doing its work well. There is a class of dyspeptics who are constantly worrying or giving anxious thought of what they should eat or drink. With such a state of mind, no matter how simple the food, the chances are it will cause distress. "As he thinketh in his heart, so is he." Job said, "The thing which I greatly feared is come upon me;" many a dyspeptic since Job's time could truthfully testify to the same fact.

A violated conscience, disappointments in the home or in business life, often result in the most aggravated forms of indigestion and dyspepsia, which, of course, can never be cured by diet alone.

Some years ago a patient came to me for an examination. I found on analyzing his stomach contents after a testmeal that he had an excess of hydrochloric acid, indicating excitation of the walls and glands of the stomach. A few days later, on giving another test-meal, I was surprised to find free hydrochloric acid almost absent. Upon inquiry, I ascertained that

on the evening before the second test-breakfast was given him, he had received sad news from home. In this case and in other cases I have been able to observe that mental influences play a very important part in the digestive process. In all such cases there must be a change of mind in order to make possible a change in the digestion.

The form of dyspepsia most prevalent in the United States up to the age of about forty years is known as hyperhydrochloria. This is a condition in which the stomach is in a state of chronic irritation, which is aggravated by the excessive production of a highly acid gastric juice. Naturally the condition goes from bad to worse, unless it is recognized and the causes are removed.

At the beginning of this disorder, or while the irritation is still mild in character, there exists an exceptionally good appetite, which is usually regarded (especially in the young) as an indication of robust health. The large quantity of gastric juice present enables the one having this disease in a mild form to digest all he eats, and as the result, he may put on weight. As the disease progresses, there will appear an all-gone or a gnawing sensation, at first three or four hours after meals, and later one or two hours after meals. The desire for food becomes more pronounced. Children who have this form of disorder beg for food long before the regular time for meals. The husband comes home with a voracious appetite, and if everything is not in readiness, he becomes impatient.

Extreme hunger is never an indication of health; it is unnatural and is always an indication of stomach irritation. In time pain takes the place of, or is associated with, the feeling of hunger, and usually makes its appearance from one to two hours after meals. Then the discovery is probably made, that relief may be obtain-

ed by eating a little food occasionally. As a consequence, this leads to frequent meals or eating between meals. It may also be found that bicarbonate of soda affords relief, and this may be resorted to to obtain temporary relief. The temporary relief obtained is due to the absorption and dilution of the acid by the food and by the neutralization of the strong acid by the soda.

While these afford temporary relief, they stimulate the production of gastric juice and therefore intensify or aggravate the existing condition. The pain, after a time under such treatment, comes on earlier and becomes more piercing. Later an ulcer may form which may result in a hemorrhage. Most cases do not end in this way, but at the age of thirty-five or forty the glands of the stomach become exhausted from continuous irritation and overstimulation; this is followed by a diminution of gastric juice, slow digestion, and fermentation or putrefaction of foods. The stomach pains disappear and a cure of the former trouble seems to have taken place. While not experiencing so much local unpleasantness, the latter state is worse than the former, for it is really an advanced form of the old disorder.

So long as there was an excess of gastric juice, the stomach was able to keep itself clean and prevent putrefaction of the albuminous foods. In the presence of an excessive quantity of acid, even foods that are partially putrid are capable of being rendered almost harmless by disinfection. During the second state, known as hypohydrochloria, in which there is a deficiency or entire absence of free hydrochloric acid, the albuminous foods readily undergo decay, and poisons often of a deadly character are formed. These are absorbed and carried by the circulation to the liver, kidneys, and other glands of the body. These glands by continuous irritation slowly undergo degenerative changes.

They are then no longer able to neutralize or eliminate the poisons, and the system becomes flooded with them, or a state of continuous autointoxication exists, which brings about rapid changes in the heart, blood vessels, and other tissues of the body, of a degenerative nature.

The symptoms associated with hyperhydrochloria are red tongue, extremely good appetite, gnawing sensation at the pit of stomach, and later on pain coming on about one or two hours after meals, usually relieved by taking food or by the use of soda. The person is generally on a high tension and is irritable. Neurasthenia is common in this condition. There exists a general state of stimulation.

In hypohydrochloria the tongue is coated and the breath is bad. There is a bad taste in the mouth, especially in the morning, and a feeling of pressure in the head. There is a feeling of drowsiness, lack of ambition, during the day. If the person puts on weight, it is due to degeneracy of the glands. This is shown by the pale waxy or dingy skin. Cold extremities, moist clammy hands and feet, with a tendency to take colds, are other symptoms associated with this form of stomach derangement.

In coming to the physician, these patients seldom complain of having anything the matter with the stomach. They may say, "Doctor, my stomach is all right, I can eat anything [and frequently they do]; it is my nerves or my head that bothers me;" or they may complain of rheumatic pains. It is difficult often to convince them that the real cause of these symptoms lies in the stomach.

Last year there were over thirteen thousand cases of acute ptomain poisoning reported in the United States from eating canned salmon, chicken or ham sandwiches, etc. Over three thousand of these died within twenty-four hours after infection occurred, but for every death

from the poisons formed in these foods outside of the body, one hundred died from the putrefaction of the same kind of food in the stomach and colon. These poisons may not be formed or absorbed in sufficiently large amounts to cause death or serious symptoms, but they are formed in sufficient amounts to cause mental depression, headaches, and other ill feelings, which are usually ascribed to everything but the true cause. The continuous absorption of poisons from the alimentary tract is chiefly responsible for premature decay. It shortens life, and in part explains the rapid increase in the mortality rate during the past thirty years.

Not only does the absence or free hydrochloric acid encourage in the stomach the cultivation of germs of putrefaction and disease, but should meat from a cancerous creature be eaten, the cancerous tissue coming in contact with the diseased walls of the stomach, and possibly the base of an old chronic ulcer, may develop cancer. It is well known that cancerous tissue can be transplanted in this manner. Cancer is always preceded by hypohydrochloria. For this reason it seldom makes its appearance in the young, who nearly always have an abundance of gastric juice, and seldom appears before the age of forty. It makes its appearance after the glands of the stomach are disabled. Cancer seldom appears at points remote from the stomach until the stomach glands have lost their ability to produce a sufficient quantity of gastric juice to prevent decay of foods and autointoxication. The poisons absorbed from the alimentary canal lower the vitality of the tissues remote from the stomach and pave the way for this abnormal growth at any point.

Autointoxication due to hypohydrochloria is responsible to a great extent for the rapid increase in the mortality rate from Bright's disease, heart failure, and

apoplexy the past two decades. So long as there is a normal or an excessive production of gastric juice, putrefaction of albuminous foods is impossible, and cancer seldom if ever appears either in the stomach or parts remote from the stomach.

Stomach irritation is usually the first step in the causation of ulcer of the stomach and later cancer. It marks the beginning of Bright's disease and degenerative diseases. If stomach irritation can be prevented, we shall be able to prevent the maladies which today are carrying off the masses. It is important to ascertain the cause of stomach irritation.

Why is irritability of the stomach so common? The primary trouble lies not with the stomach, but with what is put into it. If the stomach bothers an individual, it is because he has for a long time probably been bothering his stomach.

Stomach irritation is due to errors in

eating and drinking. From infancy up children are given indigestible foods, and these foods are usually bolted. The presence in the stomach of indigestible foods causes mechanical irritation, and later, when fermentation has occurred, chemical irritation from the acids which are formed.

Children are permitted to eat freely of cane-sugar, fried foods, and fats, all of which favour fermentation and the formation of irritants. Meats also contain acid wastes which irritate and stimulate the production of highly acid gastric juice. The pepper, mustard, Worcestershire sauce, and other irritating substances usually eaten with meats still further aggravate this condition.

I attribute largely to the free use in America of meats, sugars, fats, condiments, and tea and coffee the prevalence of stomach disorders and their consequent evils.

Are Green Fruits Indigestible?

There is a tradition to the effect that green fruits are dangerous to eat; but from the number of small boys who eat green apples, cherries, or other fruit with apparent impunity, we may wonder whether green fruit is actually so bad on the normal stomach, or whether those cases in which the use of green fruit is followed by disaster are due to idiosyncrasy, or whether digestive disturbance is caused only in cases in which there has been previous disorder, the fruit being the proverbial "last straw." There is nothing in the green fruit that is not in the ripe fruit, only a difference in the proportions. The ripe fruit is mellow, and more readily broken up in the stomach if swallowed in lumps,—as it is likely to be swallowed by a boy,—and contains a larger proportion of carbohydrate in a digestible or digested state. Doubtless the raw starch is indigestible, but not more so than the

woody fibre. Possibly the green-apple cholera tradition has about as much foundation as the tomato-cancer superstition which had such vogue a generation ago. We feel sure that there are hundreds of small boys who will arise and call this magazine blessed if it will only help to take the ban off green fruits. Our advice to the boys is this: You will eat green fruit whatever we may say about it. But if you will chew it well, and spit out the pulp, such fruit will certainly be less likely to do you harm than if you swallow it in large lumps.—*Life and Health*.

"TRUE character, good habits and iron industry are impregnable to the assaults of all the ill luck that fools ever dreamed of."

"A PESSIMIST is a man who is dissatisfied when told that every cloud has a silver lining. He wishes it were gold."

The House We Live In

The Changes of the Air in Respiration

BY A. B. OLSEN, M. D., D. P. H.

THE fresh air, on entering the lungs, undergoes vital changes, so that there is a marked difference between the inspired and expired air. Summed up in a few words: the exhaled air contains something more than four per cent less oxygen, four per cent more carbonic acid gas, a certain amount of waste matter, and traces of ammonia, moisture to saturation, and lastly, additional heat, for the temperature is usually raised.

Interchange of Oxygen and Carbonic Acid Gas

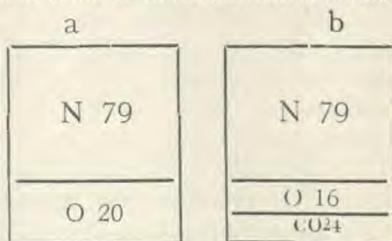
We first note that the nitrogen gas, which constitutes nearly eighty per cent of the air, remains unchanged. The most important and most vital change that takes place in the inspired air is the loss of oxygen and the addition of something less than the equivalent amount of carbonic acid gas. More than one-fifth of the oxygen, or four per cent, is given up to the blood, while no less than four per cent of carbonic acid gas is taken up from the blood to be expired with the air. The exchange of these gases is in the proportion of about five volumes of oxygen to four volumes of carbonic acid gas. See diagrams.

In a state of rest the average adult male, breathing seventeen times per minute a quantity of air amounting to thirty cubic inches, gives off in the course of an hour .72 cubic feet of carbonic acid gas. If he engages in light exercise the amount is increased to one cubic foot, while in the case of hard work, the amount is anything from 1.5 to 2 cubic feet of carbonic acid gas per hour. The adult woman would

eliminate under the same circumstances about twenty per cent less, while it is estimated that an infant eliminates half a cubic foot per hour. A horse eliminates about three times as much carbonic acid gas as an adult male, and other animals in proportion to their size and activity.

Organic Wastes

The musty, offensive smell which is so characteristic of a poorly-ventilated room is known to be due to the presence in the breath of various waste extractives, which have been described as "putrescible organic matters." These bodies, of which there are only traces in the breath, are of a poisonous nature, and they are regarded by many authorities as the most harmful and dangerous constituents of the exhaled air. While some of these extractives doubtless



a. Composition of fresh air on entering lungs. Nitrogen, 79 per cent; oxygen, 20 per cent; carbonic acid gas, not shown, .04 per cent.

b. Composition of the expired air. Oxygen diminished from 20 to 16 per cent, and 4 per cent carbonic acid gas added.

originate from the lungs, it is thought that most of them come from the mouth and nose, organs which harbour innumerable germs of various kinds, as well as decaying food particles, and more or less filth, and are therefore very rarely in anything like a clean state. The presence of any odour in the air of a living room at once

indicates that it is unfit for respiration, and the necessity of thorough ventilation.

Other Changes in the Air

The inspired air usually gathers moisture from the respiratory passages, the amount depending upon the watery vapour which it already contains. This explains the unpleasant dryness of the mouth and throat which develops in mouth breathing. When the outside air is saturated or nearly saturated with moisture the expired air becomes visible in the form of a greyish, misty vapour. To demonstrate the moisture of the expired air, one only has to breathe on a looking-glass which immediately becomes dimmed by moisture. In any case the expired air is always saturated

with moisture, and this means that it contains five per cent of water vapour. The water given off by the lungs of an average person in the course of twenty-four hours amounts to ten ounces, or half a pint something less than half the quantity given off by the skin in the same time.

There is still another change which takes place in the air, and that is the rise in temperature, that is, provided the outside air is colder than the body temperature. This change is therefore most marked in cold weather, and out of doors rather than indoors. If the temperature of the atmosphere is higher than that of the blood the air becomes cooled instead of warmed, and is actually colder when exhaled than when inhaled.



Soups

Celery and Tomato Soup

Celery, 2 cups
Vegetable stock, 2 cups
Celery salt
Tomatoes, 2 cups
Salt

Chop the celery rather fine, and cook in a little water till tender; press through a sieve, and add the tomato, salt, and soup stock; heat well, and serve.

Cream Celery Soup

Celery, stewed, 1 cup
Milk, 1 quart
Broth from the celery, 1 cup
Flour, 1 tablespoon
Butter, 1 tablespoon

Heat the milk, and thicken with the flour. Press the celery through a colander, and add it and the other ingredients to the milk. Reheat and serve.

Cream Rice Soup

Rice, 2 tablespoons
Milk, 5 cups
Salt
Celery salt

Wash the rice in warm water, and add to the boiling milk; cook until tender, season, and serve.

Cream Corn Soup

Corn, 1 tin
Cream or milk, 4 cups
Salt

Grind the corn in vegetable mill, and press through a fine colander; add the cream and salt; heat and serve.

Corn Soup

Sweet corn, rubbed fine, 2 cups
Vegetable soup stock, 4 cups
Salt, 1 heaping tablespoon

If desired, add more water. Bring to a boil, rub through a colander, reheat and serve.

Corn and Tomato Soup

Kornlet, ground fine, 1½ cups
 Tomatoes, strained, 2 cups
 Water, 1 cup

Mix thoroughly, season with salt, heat to boiling point, and serve.

Cereal Soup

Onion, chopped, 1
 Celery salt
 Left-over porridge, 1 cup
 Milk, 2 cups
 Butter, 1 tablespoon
 Bay leaf
 Water, 2 cups
 Salt, 1 teaspoon

Into a saucepan put the chopped onion and butter; cook carefully, without browning the butter, until the onion is perfectly soft; add the celery salt, bay leaf, and porridge; stir for a moment, then add the water and milk; bring to a boil, and strain; salt, reheat; and serve.

Nut Chowder Soup

Nuttolene or protose, ¼ pound
 Eggs, hard-boiled, 3
 Onions, browned, 3
 Sage, 1 teaspoon
 Thyme, 1 teaspoon
 Bay leaves, 2
 Salt, 1 teaspoon

Chop all together till fine, then add to boiling strained tomatoes, four cups; add boiling water, one cup; thicken with flour, one tablespoonful; reheat and serve.

Nut Noodle Soup

Vegetable soup stock, 5 cups
 Noodles

Cook the noodles in stock for about twenty minutes, salt, and serve. Strained tomatoes or vegetable broth may be used in place of the soup stock.

Nut and Olive Soup

Soup stock, 4 cups
 Ripe olives, chopped, 12
 Flour, browned, 1 tablespoon

Tomatoes, strained, ½ cup
 Lemon juice, 1 teaspoon
 Nut butter, 2 tablespoon

Emulsify the nut butter in a little of the stock; add the remaining stock and the rest of the ingredients, except the browned flour, which should be added after the soup has boiled. Salt and serve.

Nut and Asparagus Soup

Asparagus, finely cut, 4 cups
 Vegetable soup stock, 4 cups
 Salt

Cook till the asparagus is very tender; put through a sieve; add stock and salt; reheat and serve.

Nut Meat Broth

Water, 4 cups
 Nut meal, 1 cup
 Gluten meal or browned flour, 2 table-
 spoons
 Salt

Let all boil together thoroughly, and serve.

Nut and Tomato Soup

Onion, 1
 Savory or green herbs, 1 pinch
 Butter, 1 tablespoon
 Nut butter, 1 tablespoon
 Tomatoes, stewed, 1 cup
 Hot water, 3 cups
 Gluten

Slice the onion into a heated saucepan with the butter and herbs; let brown two or three minutes, then add the nut butter; brown a little longer, and add the tomatoes and water; boil, thicken with gluten, salt, strain, and serve.

Rice and Nut Soup

Vegetable stock, 5 cups
 Sage, ¼ teaspoon
 Rice, 2 tablespoons
 Salt
 Water, 2 cups

Boil twenty minutes, and serve.



: Mother and Child :

Making Our Girls Home Lovers

GRACE GALLATIN SETON

"OH, DEAR! I wish I did not have to go home," sighed one girlish voice, as the girl herself put on her wraps, crossed the threshold of the party place and looked back longingly at the merry crowd which still remained.

"Nowhere to go but home, poor thing!" lightly answered her mate.

And I passed on wondering why this nomadic spirit obsesses our daughters to-day.

Have you thought why your girl goes to her club or social affair? It is because she finds there a larger life. She meets there girl friends of her own age and having similar tastes. Some of these girls have, perhaps, a greater development than her own, along certain lines which interest her and she is stimulated by their companionship. Perhaps it is she who possesses the greater development and so she experiences the exhilaration of self-expression. Do we, as mothers, give our girls ample opportunity for self-expression at home? If our daughters are forceful examples of modern young womanhood they will demand these opportunities and we ought to provide a home circle sufficiently enriched from without to afford a stimulus for their aspiring minds.

The hearthstone is entering into competition with the expanding life of the girlhood of to-day and to keep our girls at home, the home idea must expand also. This makes us question what the home really means. It also makes us realize the necessity for making the home bright and attractive—that is, we must put more fuel on the hearth and see to it that the fire burns more brightly.

What kind of a home have you? It seems to me that it is a mother's duty and should be her pleasure to make her home mean work, health, and love to her daughter.

We mothers should aim to bring more varied and greater attractive activity into the home. The home is the logical girl centre and if it does not attract and hold our daughters something is wrong. Encourage your girl's friends of both sexes to make your home their meeting place, instead of allowing them to meet in a club. If possible, cultivate musical afternoons or evenings when serious work is done for part of the time, at least, and for a definite purpose—a charity or an entertainment—just what the object is does not matter so long as the boys and girls are working together. It is the spirit back of this home social life that counts. The refreshments, so dear to a girl's heart and rightly so since such offering is the essence of hospitality, can be simplified so as to serve every requirement of sustenance, conviviality and charm and not be a monetary burden.

In stimulating your daughter along these lines of hospitality, encourage the inexpensive entertainment. Emphasize the delight of its informality. Share in her attempts in entertaining, always sympathetically, and urge her to entertain with some big motive as a background. What you work for, that you love, and by utilizing this gregarious instinct you help to develop that wonderful girl asset, enthusiasm. Bring even the outdoor sports to the home if possible, making your daughter and her friends feel the exhilarating

glow of Hestia's fire and the girl will stay at home quite as much as is good for her.

Encourage your daughter to learn how to *do* something at home. There are the fascinating art crafts about which there is abundance of simple instruction both in books and periodicals nowadays. Nearly all of these crafts are suitable for home work. Spare a room if you can for your girl's work, or a corner of a room. Even a common wooden table equipped with a few inexpensive accessories and tools can be made to serve for developing many of the art crafts, such as making craft jewelry, stenciling, wood carving, book-binding, designing, and bead work. For weaving, dyeing and making pottery a more elaborate equipment is necessary. But even these crafts are well within the means of the average home girl.

Once fairly launched on some definite line of work your daughter will be inspired to a habit of industry that will keep her occupied and happy for many hours and will also deepen her interest in the home. The articles which she makes as a result of the craft work may be beautiful and practical and have the additional value of being created by loving hands and heart to serve some useful home purpose. These homemade objects of your daughter's industry may be most varied. Hangings, bed covers, house draperies will spring into being if the craft be weaving or stenciling. If it be wood carving a beautiful bench may result or a series of panels for the girl's room, or to give a friend, as well as less elaborate boxes for various uses. The suggestions along this line of crafts are almost limitless. Craft work has the added value, as well, of developing another side of the girl's life, the reading habit. Her craft work will create in her an interest in books pertaining to the subject. These books are usually obtainable in the local library and the fact that they may be brought home for home use

makes the public library a wonderful asset for the home girl.

Family tolerance and the cultivation of a constructive habit of thought in family life help more than anything else in making daughters love home. In making home a place of harmony, your daughter will not want to leave it. Use sympathetic tolerance in dealing with every member of the family. Try to see the world as your daughter sees it, a place of colour, beauty, music and delight. Her point of view is of necessity different from yours. You see the world as a gray place, perhaps; in her eyes it is all rosy. For this reason it is essential that every mother endeavour to wear her daughter's rose-coloured spectacles and exercise unusual patience in dealing with girlish vanity, foibles and unexplainable enthusiasm. More fair girl temples of harmonious resolves have been shattered by the habit of petty and destructive family criticisms than by a season of determined warfare. We might formulate a rule for family tolerance which would be forbearance on the prickly points and a joyous combination of the congenial ones.

Girl-training must have for its goal home making. The character of the home of to-morrow depends largely upon how much the girl of to-day loves the home of to-day. Too often our girls fare forth from their homes because home means so little to them. We rarely love the thing we do not understand, or at least which contains no point of emotional contact. The unknown lures us and draws us on as does a chimera or a vice, but the known, the understood, the tried and the proved thing claims our final allegiance. This quality of conservatism in the human heart is the very core of the home feeling. In many homes the warmth of the hearth is gone and only ashes remain. But this hearth fire is a spirit which, though coy, is always seeking an opportunity to re-

kindle itself and make of the home a place of light and joy for our daughters. In the final analysis it really rests with us mothers to make of the home a matrix from which will evolve a warm, living, vital, outspreading creature of love, the daughter—the home-maker of to-morrow. Let us try for this remodelling of our homes which are, too often, only colourless, charmless combinations of brick, mortar, furniture,—jagged, out-of-door, anxious seats of inharmonies.—*Mothers Magazine*.

WOMEN KNOW LITTLE ABOUT COOKING

"Women do not take enough pains with their cooking," said he. "Cooking is not even treated as an art when, as a matter of fact, it should be practiced as a science. What does the average woman know about the science of cooking? I am sorry to say that she knows almost nothing. But how many women know the precise number of heat units that are required to bring food up to the highest possible nutritive point while also making it the most easily digestible? I do not believe that one woman in ten thousand possesses such information, and if they all possessed it, it would not do them much good. How could it do them much good? Who knows how many heat units are thrown off by a single burner of a gas range? Nobody knows. A woman can only cook by guess and trust to luck that she will guess right more times than she guesses wrong. "All cooking should be done over an electric range. The current used in cooking should be accurately measured by an automatic instrument attached to the stove and the number of heat units expended should at all times be indicated upon a dial that the cook can see.

"Provision having been made for this, the problem of cooking should be reduced to an exact science. All recipes should be based upon scientific experiment. A

recipe should not only prescribe the kind and quantity of the ingredients, but it should also tell the number of heat units that are required for the cooking.

"One needs to hear a cook talk only fifteen minutes to see the necessity for this sort of exact scientific knowledge. How often do we hear that 'The bread did not turn out well to-day,' or 'Something is the matter with the pie—I do not know what it is.' A woman who has made bread all her life cannot be sure that the next bread she bakes will be fit to eat. They are never sure about cake until they see it upon the table, taste it and find that it is all right. Years ago, they used to blame their bad bread upon poor yeast, but in this day of compressed yeast, it is necessary to find a new reason. The fact is that bread making, like all other cooking, is a highly intricate chemical process, in which everything must be done exactly right to produce right results. The conditions cannot vary without inviting disaster. It is the fact that conditions do vary without the knowledge of the cook that makes the results of cooking so uncertain."

Mr. Edison said that women should also be more careful about the quality of the materials they use.

"It is a common belief," he continued, "that inferior butter and inferior eggs may safely be used for cooking. Butter that could not be eaten upon bread is supposed to be good enough for 'cooking butter,' and eggs that would not look well upon a plate are supposed to be harmless when hidden in a cake. There should be no such things as 'cooking butter' and 'cooking eggs.' Butter and eggs that are not good enough to eat by themselves are not good enough to eat in anything else. As a matter of fact, a great deal of ptomaine poisoning is caused by eating stale eggs. Women forget that eggs are meat and, like meat,

(Concluded on Page 293)

Nostrums

Skin Diseases

PROPRIETARY articles for the cure of eczema and other skin affections include several which are as widely advertised as any nostrums of any kind. Some of them are at first offered at the comparatively low price of 1s. 1½d.; but in almost every case the further information supplied on application shows that what is really recommended is a "treatment," including an ointment or other application, a special soap, and a medicine to be taken internally, and often also a dusting powder, and occasionally other articles. The importance of persisting in the treatment is strongly emphasized, with the result that anyone who once lays out 1s. 1½d. is likely to be drawn into spending quite a considerable sum. Only a few out of the long list which might be made of these articles have been analysed, but the results throw sufficient light on the general nature of the whole class. The most striking point about them is perhaps the extremely commonplace nature of the drugs selected, although the vendors in some instances would have the buyer believe that the preparation sold is the result of years of patient experiment.

Zam-Buk.

This ointment is sold by a London Company in a box, containing three-fifths of an ounce, price 1s. 1½d.; a Zam-Buk soap is also recommended for use as part of the treatment. In a circular enclosed in the package it was related how:

Certain medicinal plants were taken, and from them were extracted gums and juices possessing considerable healing and curative power. Costly experiments at last secured the right blending of these juices: and to the final product, a preparation

virtually capable of growing new and healthy skin, the name of Zam-Buk was given. . . .

Zam-Buk practically contains those substances which Nature has intended for the use of man ever since she bequeathed to him the instinct to rub a place that hurts. . . .

Zam-Buk has proved itself to be unequalled for Cuts, Bruises, Burns, Scalds Abrasions, Festering Sores, Poisoned Wounds, Lacerated Wounds, Old Wounds, Sprains, Strains, Swellings, Dog Bites, Cat Scratches, Obstinate Sores, Chafings, Itch (Scabies), Stings from Hornets, Bees, Wasps, Centipedes, and Spiders; Running Sores, Ulcers, Ringworm, Eczema (acute or chronic form), Psoriasis (tetter), Pimples, Acne, Abscesses, Boils, Carbuncles, Scrofula, Cramp, Barber's Itch, Heat Rashes, Sunburn, Freckles, Blotches, Blackheads, Scalp Irritations, Scurf or Dandruff, and other Scalp Sores; Colds, Chills, Raw Chapped Hands, Sore Lips, Raw Chin after Shaving; Inflamed Patches, Sore Nipples, Glandular Swellings, Swollen Knees, Bad Legs, Blind and Bleeding Piles, Cold-Sores, Sore Backs, Diseased or Weak Ankles, Sore and Aching Feet, Perspiring Feet, Chilblains, Soft Corns, Saltwater Sores. Rubbed well into the part affected, Zam-Buk gives great relief from Rheumatism, Lumbago, Neuralgia, Sciatica, Toothache, and allays all kinds of Inflammation, Itching, and Irritation.

The directions on the box were:

For Bruises, Cuts, Sores, Sprains, Open Wounds, Sore Breasts, Inflamed Patches, Ulcers, Eczema and Piles; first cleanse the parts with pure water and then apply Zam-Buk direct or on a piece of clean lint. For Burns, Scalds, etc., rub Zam-Buk lightly over the injured part and cover same as soon as possible in order to exclude the air. To use Zam-Buk as an Embrocation rub it in well, both into the muscles and tendons, when the healing, stimulating and strengthening ingredients in Zam-Buk will be absorbed into the system.

Analysis showed its composition to be:

Oil of eucalyptus	14 per cent.
	(approximately),
Pale resin (colophony)	.. 20 " "
Soft paraffin	.. 55 " "
Hard paraffin	.. 11 " "
Green colouring matter	a trace.

An ointment prepared in accordance with this formula and tinted with chlorophyll agreed in all respects with the original.

The estimated cost of the ingredients for three fifths of an ounce is $\frac{1}{4}$ d.—*Selected.*



PUBLIC HEALTH IN BIRMINGHAM

BIRMINGHAM is not the only British town that could teach us in America some of the first principles of economical city government. Those most interested have succeeded in erecting a bogey-man to frighten the common people in America. It is "public ownership." We are told that public ownership will not work, but it does work; and where it has been successfully installed, the people will have nothing else, and are gradually buying up the private monopolies. Acting on the principle that "all monopolies which are sustained in any way by the state ought to be in the hands of the representatives of the people, by whom they should be administered and to whom the profit should go," the city of Birmingham owns its gasworks, water-works, electric system, and street railways; and the profits, instead of paying dividends on badly watered stock, are applied to diminish the "rates," including taxes as we understand the word.

Gas is furnished to consumers at the marvellously low rate of 39 to 62 cents per thousand feet, less 5 per cent discount, and the price of electricity has fallen from 8 $\frac{1}{4}$ cents per unit to 3 cents per unit. Last year the departments (gas, tramways, and electric supply) lessened the rates materially by paying into the treasury \$575,000.

In the matter of public health, Birmingham has an enviable reputation. Last year the mortality rate for the old city was 13.7 per thousand; for the greater city, including the recently incorporated suburbs, it was 12.6 per thousand. Few cities of half a

million population can boast so small a death-rate. And this healthfulness can not be attributed entirely to the situation of the city, for Birmingham lies, as it were, squarely on the backbone of England, so that water falling in the city finds its way partly to the German Ocean, partly to the Irish Sea. The high altitude has increased the difficulty of obtaining an adequate water-supply, and the remoteness of a river of considerable size has made the sewage problem more perplexing. But these difficulties have been successfully overcome.

It has long been realized by citizens of Birmingham that the prosperity of the city depends in large measure on the health of its inhabitants, and that a prerequisite to both health and prosperity is an abundant supply of pure water. Previous to 1905 water was pumped into the city from adjacent streams and from deep wells; but as the growth of the city rendered this supply inadequate, an act of Parliament was secured, granting to the city the right to acquire land in Wales.

The city immediately purchased a fifty-thousand-acre tract of moorland in Wales, about seventy-five miles distant, which furnishes an abundance of soft water free from all danger of contamination. This water, which is carried to the city by gravity, is filtered in Wales and again at Birmingham, so that the city now has an inexhaustible supply of pure water.

In the matter of sewage disposal, the city has had to make a number of experiments. One was a sewage farm of three thousand acres, which it still controls, but does not use. The last system adopted was a bacte-

rial system, and it is said to be the largest system of the kind in existence. At one time the tub and pail closets were in general use; but in the last fourteen years these have been gradually replaced by water-closets of modern type, with the result that the number of reported cases of typhoid fever yearly has gradually fallen from 533 to 73, a reduction of 86 per cent. Birmingham claims the further credit that one of its physicians, Dr. Bodington, was the first to advocate the open-air treatment of tuberculosis, and that the city early began preventive work in this line. A policy was adopted encouraging farmers to isolate tuberculous animals, so that several of the herds supplying the city with milk have been freed from tuberculosis, and the work continues. This tuberculosis-free milk sells at a slight advance above ordinary milk.

The city, while free from the narrow streets of some other cities, still has alley houses with insufficient air, space, and light. The policy is to deal with these houses at about the rate of two a day, demolishing some and improving others. Birmingham has been a pioneer in what is now known as town planning. The portion of the city most resembling a slum is lessening in population every year, and it is proposed later to assign certain areas for factories, and other areas for residence and pleasure grounds.

Not far from Birmingham—in fact, a suburb—is Bournville, a model garden city, where every effort has been made to give the labouring classes the benefit of a clean, healthful, beautiful city, with all the health and pleasures of the country and the conveniences of the city. But this is another story, which we give elsewhere in this issue.

PLAGUE PREVENTION IN IRRAWADDY DIVISION

We have received Capt. S. C. Chuckerbutty's report on the Plague Preventive Scheme carried out in the Irrawaddy Division of Burma.

The report is full of interest and with certain modification follows the lines of Capt. Brayne's drives noticed in a recent issue. The results have certainly been satisfactory—there has been no plague in epidemic form in the year 1912 in three large towns; Bassein, population

37,000; Henzada, population, 27,000; and Myaungmya, population, 9,000.

Rat destruction on a large scale was carried out by a huge staff under 4 Military Asst. Surgeons, 4 Sub-Asst. Surgeons, and 4 Sub-Magistrates, and hand-in-hand with this went the demolition of insanitary buildings and improvements to others. Particular attention was given to general sanitation and the cleaning up of houses and their surroundings. Rat "drives" were done twice in the year, the first starting well before the period when the usual epidemic was due. Rat drives naturally need to be done with thoughtfulness and tact, and as so many houses in Burma have low plank floors, it is not possible to destroy the rats which exist under these floors without removing these planks. This however has led to use of raised floors or to *pucca* rat-proof floors. Capt. Chuckerbutty sums his measures as follows:—

"The preventive measures adopted to check the various outbreaks were one or more of the following:—

"(1) Drives—including thorough cleaning of houses,

"(2) Systematic trapping,

"(3) General sanitary improvement and improvements to houses, eating-houses, bakeries and lodging-houses with a view to make them non-infested and sanitary,

"(4) Demolition of insanitary houses and extensions which were found to be unfit for human habitation,

"(5) Inoculation, and

"(6) Evacuation.

"Drives were carried out at nine different areas in the district, inoculation at three places and evacuation at two. During the course of the drives, special stress was laid on thorough cleaning of all the houses and cart-loads of rubbish have been removed."
—*Indian Medical Gazette.*

HOW AMERICANS SPEND THEIR MONEY.

A MORE truthful heading for this paragraph would be, "How Americans Waste Their Money." The following data were displayed at an exhibition which was held in connection with the Fifteenth International Congress of Hygiene and Demography, at Washington, D. C., U. S. A., last September.

Immorality, Social Diseases...\$3,000,000,000
Intoxicating Liquors..... 2,000,000,000

Tobacco.....	\$1,200,000,000
Jewellery and Plate.....	800,000,000
Automobiles.....	500,000,000
Church Work at Home.....	250,000,000
Confectionery.....	200,000,000
Soft Drinks.....	120,000,000
Tea and Coffee.....	100,000,000
Millinery.....	60,000,000
Patent Medicines.....	80,000,000
Chewing Gum.....	13,000,000
Foreign Missions.....	12,000,000

We wonder whether any heathen country or even savage tribe could produce any more portentous figures than these. Perhaps we might explain that what we call temperance drinks in this country are usually known as "soft drinks" across the water. Fortunately the chewing gum evil has not seriously penetrated our country, and we trust it never will. Otherwise we fear that we should be able to produce much the same figures in proportion to our population.—*Good Health.*

TOBACCO AND INEBRIETY

AN article on "The Treatment of Narcotic Addiction," in the *Journal A. M. A.*, June 27, 1913, has a significant statement regarding the relationship of tobacco and inebriety, which is worth repeating:—

"Many patients who come under the class of periodic inebriates and whose periodicity seems to occur with no known cause or reason, are sufferers from chronic tobacco poisoning which in reality is the cause of their periodic alcohol inebriety. This is especially true of the excessive cigarette smokers and the many others who inhale their cigar or pipe smoke. These patients smoke to excess, and becoming nervous, increase their smoking that their nerves may be quieted. Finally, they become so nervous through their tobacco that they must take some narcotic to quiet them, and turn to alcohol. They are exceedingly intolerant to alcohol, and after the first drink or so they are mentally not sober, and then go on to the full spree. The vicious circle can be broken only by cutting off their tobacco, and unless this is done, they will stop neither alcohol nor tobacco. They cannot stop the alcohol under these conditions, and their only chance is to stop the tobacco."

This, from a man who specializes in the treatment of inebriates, is worth consideration.

REDUCING THE MEAT DIET

The *Ohio State Journal*, in its issue of July 3, 1912, had an editorial with the title we have chosen for this article, which is another evidence that thinking men are coming to the place where they realize that a heavy meat diet is not the ideal diet, from which we take the following quotation:—
"Now is a good time to reduce the meat diet and give to the cattle raisers and meat packers an opportunity to lay up a stock and prepare the conditions for lower prices. Now is the time, we say, when the vegetables and fruits are crowning the year, and a man may live in the kingdom of health and joy on the fresh green things of the earth, to do away with the old passionate, rheumy, stolid meat diet and live in the sunshiny food that gives song to the birds and honey to the bees.

"Anyhow, if one does not care to go to the length of a total abstainer, let him have meat no more than once a day, at least while the sun is north of the equator. It is the meat that is at the bottom of half our wickedness. It makes us impatient, violent, passionate. It makes us want to dispute, to yell, to kick the cat, and read a dime novel. Our Catholic friends have a rule not to eat meat on Fridays. It is based on a wholesome idea. We propose our Protestant friends that they make a rule to turn any one out of church who eats meat more than once a day."

In our opinion this lightened meat ration (the lighter the better) is not a bad programme for the winter months as well.

SMOKING IN PUBLIC PLACES

THE *London Lancet* in its issue of April 26 has an editorial article entitled "Smoking in the Theatre," from which it seems that the suggestion has been made to permit smoking in the theatre in order to increase the number of patrons. This, the *Lancet* thinks, would submit the public, "whether they liked it or not, to an atmosphere of burning pipe, cigar, or cigarette, which cannot add to the health of the surroundings." Says the *Lancet*:—

"Scientific evidence is hardly needed to show that to some extent the person breathing a smoke-tainted atmosphere is liable to the same evils as the person who is smoking; for the experience of a non-smoker who has spent an evening in an atmosphere of a smoking concert is often that he sustains a disturbance of health similar to that

sometimes complained of by the excessive smoker."

The *Lancet* suggests as a compromise that a certain section of the theatre be reserved for smokers, and so ventilated as to prevent effectually the smoke from annoying the non-smokers. "If this is impracticable,"

thinks the *Lancet*, "then the prohibition of smoking in theatres seems to us to be reasonable." Most certainly. No one should be allowed to pollute the air of a public place with fumes that are annoying and poisonous to some who have a right to be present.

What to Do Till the Doctor Comes

MANY lives are saved by knowing what to do in case of emergency. One must have cool head and quick action to make use of this knowledge. Many persons know what to do, but at the necessary moment they "lose their heads" and hence their knowledge is absolutely useless.

There are many emergencies continually arising in every-day life the results of which are serious. We may first consider that of hemorrhage. Someone has cut his finger, or toe, or some portion of the arm or leg, and the result is a severe hemorrhage. Often a physician could not reach the place in time to save the life. What are you going to do?

If the hemorrhage is coming from some portion of the hand or arm, a handkerchief, or any piece of cloth that can be got hold of, or possibly a piece of rope, can be tied around the upper arm, and a pencil or stick placed in the double knot that is used in tying, and the knot twisted by this pencil. In this manner the blood supply will be shut off in the arteries going down the arm, and thus the hemorrhage will be stopped.

If the hemorrhage is from the foot or the lower limb, the same should be done as on the upper arm, excepting that the handkerchief should be tied around the upper thigh. If the thigh is very fleshy, place in the handkerchief a small stone or piece of wood on the upper inner surface of the thigh. This will make greater pres-

sure upon the blood vessel. The lives of children oftentimes can be saved in this way, as they frequently so injure themselves as to cause serious hemorrhage. Any mother can save the life of her child by these simple means.

A hemorrhage from the lungs is very alarming when it comes suddenly. The patient coughs up bright red, frothy blood. Immediately his strength seems to go. Have the patient lie down with the head and shoulders up. Get your patient quiet as soon as possible. Keep your own nerve steady. If there are any uncontrollably nervous persons in the room, put them out.

Have the patient take small lumps of ice. Put cold cloths on the chest. Ice is better if you can get it, otherwise the coldest water you can get should be used. Keep changing these cloths, keeping the chest cool. Also put a cold compress or an ice-bag on the back, between the shoulders. Notify a physician at once, but above all things keep the patient quiet, and do not alarm him in any way.

While a hemorrhage from the lungs alarms us, a hemorrhage from the nose is not usually so alarming. This is because we do not realise the seriousness of nose-bleed. It can become very serious and needs attention. Loosen the clothing about the neck of the patient. Place him on his back, with the head elevated, and apply cold cloths over the bridge of the nose and also to the back of the neck.

or something of that kind which can be quickly got hold of to put out the fire. Do not try to find water, but instead use a rug, a table-cover, or anything else of that nature which can be found. Care should be taken to place the rug or blanket over the chest first to protect the face from fire.

Something in the Windpipe

Another accident that frequently happens to children, and sometimes to adults, is that of swallowing into the air-passages some foreign body, thus producing choking. Immediately the head should be lowered—in fact the victim should be stood on his head—with sharp slapping or percussion upon the back. Oftentimes the foreign body can be dislodged by running the finger down the throat and pulling it out.

MARY W. PAULSON, M. D.

WOMEN KNOW LITTLE ABOUT COOKING

(Concluded from Page 286)

are exceedingly perishable. A tainted egg for breakfast will cause just enough ptomaine poisoning to create a headache, the cause of which the victim does not know. But don't forget—it was the bad egg that did it. In short, a bad egg is a poisonous egg, and it is precisely as poisonous in a cake as it is if eaten by itself.

“There are many such cooking schools in the country. There are not as many as there should be or as many as there will soon be, but there are enough to indicate that the public mind is definitely turning toward better food prepared upon scientific principles.”

Mr. Edison's desire, however, to have every young woman in the country, regardless of her social station, attend cooking school has been thwarted, among other places, in his own home.

“I wanted my daughter to go to cooking school,” he said, “and tried my best to induce her to go. I made the argument to her that regardless of whether it would ever be necessary for her to cook anything she should be prepared to do so and to do it right. But she did not seem to want to go and that ended it.”—*Good House Keeping.*

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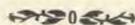
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EVIL EFFECTS OF PAN

(Concluded from Page 272)

from under him, he falls down. If the fall has caused a broken leg, it takes him some time to get up again. So with stimulation. It gives one a feeling of security, but when the crisis comes, it sometimes takes years to build up and undo the evil effects of the stimulation upon the system. One who is in perfect health is not kept up by stimulation, but all of his organs are working in perfect harmony with each other without any form of stimulation whatever.

We admit that there is power in spices and condiments to kill organisms which are the cause of fever. But the continual use of some thing strong enough to kill germs is sure to cause destructive changes in the body and will lower the resistance of the body to such an extent that it is liable to fall prey to any disease with which it comes in contact. So that the use of these things is defeating the very purpose for which they are intended.

Other conditions responsible for Pan using are hardening of the blood vessels, various affections of the heart and nervous system, loss of sexual power, and many other conditions.

Just how much this habit by its poisonous effects upon the delicate structure of the eye is the cause of dimness of vision, blindness and cataract so prevalent in India is not known, but we do know that it lends a heavy influence in their direction. Nor do we know how much of a factor it is in the causation of diabetes which is so prevalent in India, by its poisonous effect upon the nervous system, liver, pancreas, kidneys, and muscles. In a recent report from the Travancore Medical Mission it was stated that of the 80 or so cases of cancer of the mouth operated on a large percentage was attributed to Pan chewing.

Is it not high time that with voice and pen something should be done to educate the millions of India way from the continuance of a habit at once so prevalent and yet so destructive of health?

Massage



is an art in the treatment of disease, which is practiced by the attendants in charge of the Treatment rooms at both Kirkville, Mussorie and 75, Park Street, Calcutta. A Booklet describing this, and other treatments given may be had on application to the manager of either institution at the above addresses.

NEWS NOTES

SANITARY BREAD

THE following provisions passed by the city of Chicago might well be adopted by other cities: Bread must be wrapped in suitable paper. Bakers must wear washable suits and shoes when at work. The use of tobacco in bakeries is prohibited. No person with tuberculosis, scrofula, venereal or other contagious or infectious diseases, may work in bakeries. Foods must be protected from dust, flies, and contamination. Patrons must not handle foods on the counters. Delivery wagons must have canvas covers. The preparation of foods in basements is prohibited.

THE CONSUMPTION OF TOBACCO IN FRANCE

THE receipts of the sale of tobacco reached almost \$100,000,000 (500,000,000 francs), an increase of over \$2,000,000 over the preceding year. The quantity of tobacco consumed (tobacco for smoking, snuffing and chewing), represents 41,516,935 kg. The average individual consumption of tobacco, including all kinds, in France was 1.054 gm., of which 122 gm. was in powder and 932 gm. for smoking or chewing. The expenditure on tobacco has reached the enormous sum of 535,257,534 francs, or 13.73 francs for each inhabitant, including women and children.

BRANCHED TUBERCLE BACILLI

HEALTH Commissioner Dixon of Pennsylvania (*Journal A. M. A.*, March 29) reports work on the involution or branched forms of tubercle bacilli, first obtained by him in 1889, by growing the ordinary bacillus on glycerine agar subjected to great variations of temperature. Injections of these involution forms into guinea-pigs and other lower animals proved practically harmless, and developed in the animals a marked resistance to the virulent tubercle bacilli, whereas injection of much smaller doses of the original culture, from which the involution forms were cultivated into control animals, invariably caused generalized tuberculosis. It would seem that Dixon is on the way to a rational tuberculosis cure, which may prove beneficial without the necessity of filling the pockets of some Friedmann.

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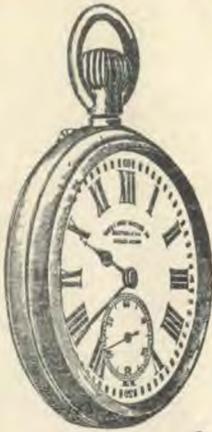
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