Life & Health

THE NATIONAL HEALTH MAGAZINE

September 1916

10 CENTS A COPY ONE DOLLAR A YEAR

WASHINGTON, D.C.

These Sanitariums

Have qualified, regular Physicians, skilled Surgeons, trained Attendants, graduate Nurses, and thoroughly equipped Laboratories.

Their Institutional Apartments are models of convenience for the scientific administration of every modern Physiological Therapeutic treatment.

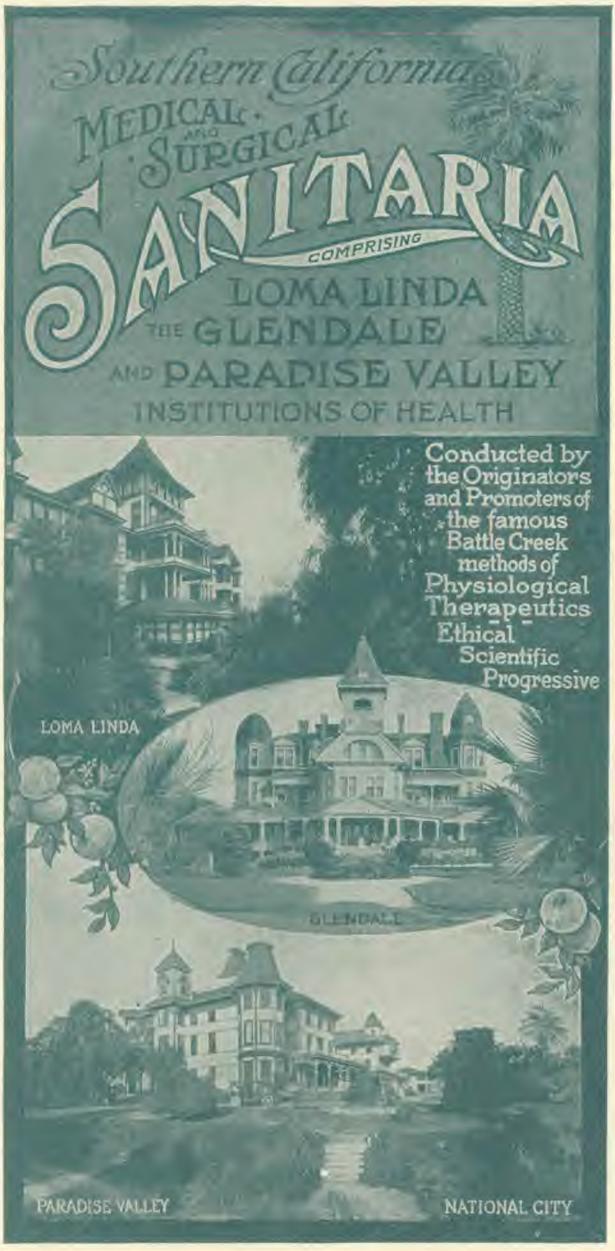
They are conducted in harmony with medical ethics, and physicians who may desire to send their patients to these institutions for special attention and treatment, can do so, knowing that their own instructions and prescriptions will be carefully administered in each case.

All Europe is War! War! War! Come to the Peaceful Pacific and visit the world's fair exposition at San Diego.

While touring Los Angeles and vicinity, rest at the Glendale Sanitarium. When in the Riverside and Redlands district, stop at the Loma Linda Sanitarium, and when visiting the San Diego fair, accept an invitation to the Paradise Valley Sanitarium at National City.

Each of these Health Resorts has its own peculiar points of excellence to offer its patients and guests.

Address for Illustrated Souvenir



THE LOMA LINDA SANITARIUM - - LOMA LINDA, CAL.
THE GLENDALE SANITARIUM - - - GLENDALE, CAL.
THE PARADISE VALLEY SANITARIUM NATIONAL CITY, CAL.

Or the City Office, No. 417 West Fifth Street, Los Angeles, Cal.

OUR GENERAL AGENCIES

Kindly order "Life and Health" from our agency nearest you

Arizona Tract Society, 417 W. Fifth St., Los Angeles, Cal.
Alabama Tract Society, 316 Lyric Bldg., Birmingham, Ala.
Arkansas Tract Society, Box 14, Little Rock, Ark.
California Bible House, 537 Twenty-fifth St., Oakland, Cal.
California-Nevada Missionary Society, 341 E. Lodi St., Lodi, Cal.
California Bible House (Central), Box 1304, Fresno, Cal.
California Tract Society (Northwestern), 537 Twenty-fifth St., Oakland, Cal.
California Tract Society, (Southeastern), 417 W. Fifth St., Los Angeles, Cal.
California Tract Society (Southern), 417 W. Fifth St., Los Angeles, Cal.
Chesapeake Tract Society, 1611 Tenth St., Baltimore, Md.
Colorado Tract Society (Eastern), 1112 Kalamath St., Denver, Colo.
Inter-Mountain Tract Society, 122 S. Eighth St., Grand Junction, Colo.
Connecticut (see New England, Southern).
Cumberland Tract Society, Rooms 31-32 Deadrick Bldg., Knoxville, Tenn.
Delaware (see Chesapeake).
District of Columbia Tract Society, 7 Fourth St., N. E., Washington, D. C.
Florida Tract Society, 19 W. Church St., Orlando, Fla.
Georgia Tract Society, 169 Bryan St., Atlanta, Ga.
Idaho Tract Society, Room 230, B. C. National Bank Bldg., Boise, Idaho.
Illinois Tract Society (Northern), 116 N. California Ave., Chicago, Ill.
Illinois Tract Society (Southern), 304 West Allen St., Springfield, Ill.
Indiana Tract Society, 521 East Twenty-third St., Indianapolis, Ind.
Iowa Tract Society, Nevada, Iowa.
Kansas Tract Society, Rooms 614-615, Butts Bldg., Wichita, Kans.
Kentucky Tract Society, 1122 Park St., Bowling Green, Ky.
Louisiana Tract Society, 810 Jackson Ave., New Orleans, La.
Maine Tract Society, 75 Grant St., Portland, Maine.
Maryland (see Chesapeake).
Massachusetts Tract Society, Room 608, Tremont Temple, Boston, Mass.
Michigan Tract Society (East), Holly, Mich.
Michigan Tract Society (North), 510 Petoskey St., Petoskey, Mich.
Michigan Tract Society (West), 8 Pearl St., Grand Rapids, Mich.
Minnesota Tract Society, 679 Holly Ave., St. Paul, Minn.
Mississippi Tract Society, 703 Gallatin St., Jackson, Miss.
Missouri Tract Society, 203 W. Franklin St., Clinton, Mo.
Montana Tract Society, 411 Black Ave., S., Bozeman, Mont.
Nebraska Bible Supply House, 315 E. Ninth St., Hastings, Nebr.
Nevada Mission, 325 W. Fifth St., Reno, Nev.
New England Tract Society (Northern), 136 N. Main St., Concord, N. H.
New England Tract Society (Southern), 51 Whitmore St., Hartford, Conn.
New Hampshire (see N. New England).
New Jersey Tract Society, 200 Columbus Ave., Trenton, N. J.
New Mexico Tract Society, 112 W. Otero St., Clovis, N. M.
New York Tract Society (Greater), Room 904, 32 Union Square, New York, N. Y.
New York Tract Society, 317 W. Bloomfield St., Rome, N. Y.
New York Tract Society (Western), 60 Grand Ave., Rochester, N. Y.
North Carolina Tract Society, 234 Summit Ave., Greensboro, N. C.
North Dakota Tract Society, Drawer N, Jamestown, N. Dak.
Ohio Tract Society, Box 8, Mt. Vernon, Ohio.
Oklahoma Tract Society, Box 644, Oklahoma City, Okla.
Oregon Missionary Society (Western), 508 E. Everett St., Portland, Oregon.
So. Oregon Tract Society, Roseburg, Oregon.
Pennsylvania Tract Society (Eastern), 4910 Arch St., Philadelphia, Pa.
Pennsylvania Tract Society (Western), 7155 Mt. Vernon St., Pittsburgh, Pa.
Rhode Island (see New England, Southern).
South Carolina Tract Society, Majestic Bldg., Greenville, S. C.
South Dakota Tract Society, Drawer 586, Watertown, S. Dak.
Tennessee River Tract Society, 2014 Twenty-third Ave., N., Nashville, Tenn.
Texas Tract Society, Keene, Tex.
Texas Tract Society (South), Box 755, San Antonio, Tex.
Texas Tract Society (West), Box 46, Amarillo, Tex.
Vermont (see Northern New England.)
Virginia Tract Society, 2705 West Main St., Richmond, Va.
Washington Missionary Society (Western), Box 328, Auburn, Wash.
Washington: Upper Columbia Tract Society, College Place, Wash.
West Virginia Tract Society, cor. Third and Juliana Sts., Parkersburg, W. Va.
Wisconsin Bible House, 305 Ruh Bldg., Fond du Lac, Wis.
Wyoming Tract Society, Crawford, Nebr.

UNITED STATES POSSESSIONS

Hawaiian Tract Society, 767 Kinau St., Honolulu, Hawaii.
Panama Tract Society, Cristobal, C. Z.
Philippine Islands Mission, 613 Nozaleda, Manila, Philippine Islands.

CANADIAN AGENCIES

Eastern Canada:

Canadian Pub. Assn., Box 308, Oshawa, Ontario.

Newfoundland Tract Society, Box 217, St. John's Newfoundland.

Western Canada:

Alberta Tract Society, 502 Seventeenth Ave. E., Calgary, Alberta.

British Columbia Tract Society, 1708 Maple St., Vancouver, B. C., Canada.

Manitoba Tract Society, 418 Lansdowne Ave., Winnipeg, Manitoba, Canada.

Saskatchewan Tract Society, Willoughby and Sumner Block, Saskatoon, Saskatchewan, Canada.

FOREIGN AGENCIES

Great Britain: International Tract Society, Stanborough Park, Watford, Herts, England.

India Union Mission: 17 Abbott Road, Lucknow, India.

Mexico: Imprenta de la Verdad, 1420 Avenida 20, Tacubaya, D. F., Mexico.

South Africa: International Tract Society, 56 Roeland St., Cape Town, South Africa.

West Indies: Watchman Press, Riversdale, Jamaica, B. W. I.

☞ If you find a Renewal Blank inside the front cover, it indicates that YOUR SUBSCRIPTION EXPIRES WITH THE RECEIPT OF THIS NUMBER. Please renew through our NEAREST AGENCY.

Minnesota State Board of Health

CONDITIONS TO BE AVOIDED IN SUMMER RESORTS

The upper picture shows a well which is probably contaminated from the privy and the barnyard; moreover, the flies are permitted to carry filth from excreta to the kitchen. The lower picture shows a privy where not only flies, but the domestic animals and fowls as well, gain access. The kitchen is unprotected from flies, and the eggs have a rank taste.

Minnesota State Board of Health

LIFE AND HEALTH

September, 1916

Contents

Entered as second-class matter June 24, 1904, at the post office at Washington, D. C., under the Act of Congress of March 3, 1879. Published monthly by Review and Herald Publishing Assn., Washington, D. C.

PRICES, POSTPAID

Yearly subscription	$1.00	**Six months**	**$ .50**
No subscription for less than six months		**Five years (or 5 subscriptions 1 year)**	**3.00**
Five or more copies, mailed by publishers to five addresses or to one address, postpaid, each			**.05**

NO EXTRA CHARGE ON FOREIGN SUBSCRIPTIONS

HOW TO REMIT.— Remittances should be made by Post-office Money Order (payable at Washington, D. C., post office), Express Order, or Draft on New York. **Cash should be sent in Registered Letter.**

DATE OF EXPIRATION.— Your address on the wrapper shows the date of expiration of your subscription. To avoid missing any numbers, please **renew early,** for we **stop** all subscriptions **promptly upon expiration.**

CHANGE OF ADDRESS.— When a change of address is desired, both the **old** and the **new address** must be given. The publishers should be notified six weeks in advance of the desired date of change.

SUBSCRIPTIONS GUARANTEED.— Our authorized agent will present signed **credentials** from our **agency nearest you,** also receipt for subscription money. If requested, he will also deliver the first copy to commence your subscription.

ADVERTISEMENTS GUARANTEED.— The reliability of every advertisement found in **Life and Health** is guaranteed.

YOU WILL NOT BE ASKED TO PAY for this magazine unless you have subscribed for it. Some friend may have subscribed for you. The receipt of a sample copy is merely an invitation to subscribe. So please do not refuse the magazine at your post office **for financial reasons.**

AFTER A REMARKABLE RUN

Durham and Walden, in a Chalmers six-thirty car, have just arrived in Chicago after a run of 1,047 miles in 31 hours.

VOL. XXXI
No. 9

Life & Health
THE NATIONAL HEALTH MAGAZINE

SEPTEMBER
1916

AIM: To assist in the physical, mental, and moral uplift of humanity through the individual and the home.

G. H. HEALD, M. D., Editor — L. A. HANSEN, Associate Editor

Do You Know That—

Poor health is expensive?

A flyless town has few funerals?

Dirty hands spread much disease?

Moderation in all things prolongs life?

The air-tight dwelling leads to the grave?

Health is a credit with the bank of nature?

Un-Pasteurized milk frequently spreads disease?

Walking is the best exercise — and the cheapest?

The well that drains the cesspool is the cup of death?

A clean garbage can is a good example to the family?

A little cough is frequently the warning signal of tuberculosis?

It is foolish to educate a boy and then let him die of typhoid fever?

THE PORTAGE

The amateur voyager is surprised to find how sore the pack straps get after the first dozen or so portages. Snowshoes and moccasins are the favorite souvenirs of the forest.

THE LURE OF THE WILD

DON DUFFIE

THAT ancient and annual scourge of the indoor man, facetiously known as spring fever, is liable about this time of year to culminate in the recklessness of a vacation trip to the North Woods. This is particularly likely if the disease mentioned is further complicated by hay fever.

For we of the town think that our souls have an occasional violent and poetic longing for the forest primeval, wherever that is. So we gullibly devour advertising literature, gradually accumulate in our room a fearful and cumbersome "outfit," till now in August, when according to the book "flies no longer bother," we wave dramatic farewell to civilization, and buy a ticket to the Jumping Off Place. This is probably a very small hamlet in northerly Ontario, in some region brought to our attention by diligent railroad publicity.

There is commonly a foreground of water, middle distance of a Catholic church, two general stores, and a hotel or two, with a background of jutting rocks, Indian cabins, and evergreen trees. Along the shore are scattered several canoes, some of bark, some plain whiteman canoes. If practicality prevail over sentiment, you will choose the puncture-proof, much easier running latter kind.

The stores can supply perhaps better than the sporting goods emporium of the city what your outfit may lack, while the queer cabins can supply what you lack most of all, though may not think so any more than we did, an Indian guide. Not that you will get lost; we have demonstrated that any one, given a map, compass, and plenty of time to hunt for portages, can find his way around. But for the sake of the occasional innocent settler whose cabin and timber holdings are not fireproof, as well as for your own comfort, safety, and education in woodcraft, do take a guide.

A NORTH WOODS GUIDE AND HIS FAMILY

The lady does not have to worry as to the effects of the rain on her hat.

No one could feel more competent to take care of his fire than we; had we not built hundreds of camp fires, and never a one got away? Yet if the law had its way we would perhaps still be interning in some Canadian penitentiary for the havoc caused by our tiny fire. It was something we had never heard of; the ground itself took fire, smoldered smokelessly for days under where our fire had been, unquenched by the water we threw on it. With the next high wind it flared up, and before the firewardens could reach it, was beyond control, and hundreds of acres of timber — fortunately mostly scrub timber — went up in a forest fire that roared for weeks. The only atonement I can make is to urge at every chance that everybody take a guide. There are so many things up there one has never heard of, but *the guide has.*

One guide can commonly be induced to handle a party of four or more if he can be made to understand that he is not expected to do more than his share of the work, and is taken mostly as a chaperon; for ordinarily he expects to do all the work, his white guest lolling through the trip, with soft hands.

Summer travel in the lake country of Canada is exclusively by canoe. It differs from the "moonlight and maiden" kind of canoeing in that only part of the time the canoe carries you, and in the much more impressive other part, you carry the canoe, likewise every ounce of that gorgeous outfit you have accumulated. This is due to the fact that the stream navigated occasionally falls out of bed, as one might say, tumbling down the rocky slope of a hill in a "rapid" or "chute," utterly discouraging to the most harebrained canoeist. At such places some *voyageur* of the great Hudson Bay Company has in years past obligingly chosen and cleared a trail through the woods alongside, being what is called a portage. At each end of the portage is commonly an inviting little camping spot cleared, with tent poles all cut.

One of the most important items in

A PRIMITIVE LAUNDRY

Clothes come back from this open-air laundry clean and sweet.

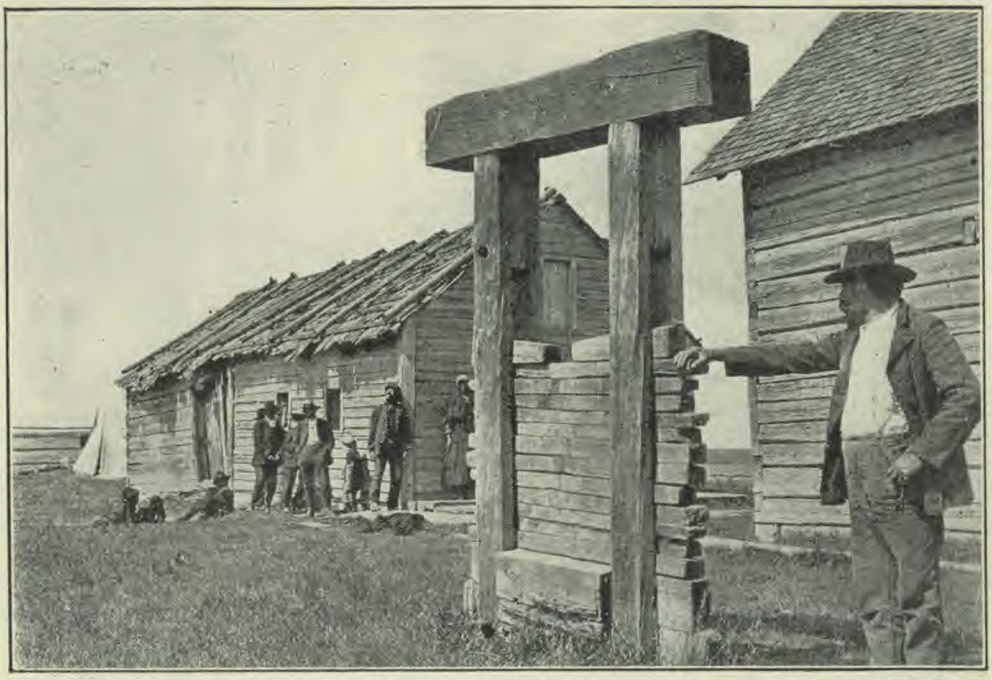
keeping one's load tempered to tender shoulders is the little silk tent. This may sound of Oriental luxury, but no other one thing contributes so much to woods comfort. Such a tent, large enough to shelter two men, costs about twelve dollars, and weighs five pounds, *wet or dry*. It does not leak even where you touch it; can be packed away wet, if necessary, with little risk of mildew. The shed-roof, lean-to type, with the whole front opening to receive the heat of the camp fire, is a favorite with all who try it. If beyond timber, two canoe paddles will do for poles.

A ground cloth of waterproof canvas, about six by eight feet, with eyelets in the corners, serves as tent floor by night, and lashed tightly around the pack of one's worldly possessions, protects food and blankets from possible wettings by day. Our party took the further precaution of tying the pack to a thwart of the canoe every time. The reward was that when we sure enough did capsize, the only loss was one frying pan that had got left out of the pack.

In connection with this experience we always like to mention three Frenchmen who stumbled half dead into our camp one night, lured by our fires. They had met such an accident five days beyond, getting their matches wet and losing everything they had except, by strange fate, a case of canned tomatoes; and cold tomatoes they had lived on for five days, shivering at night under their canoe, without fire or blankets. There is really very little humor in getting a spill a long way from nowhere.

A very good protection for a few matches may be made by telescoping a large paper shot-shell inside a larger brass one. Sizes will be found that fit perfectly, and that, sealed with a little vaseline, will keep matches dry through a twenty-four-hour soaking. Also it can, in event of numb fingers, be opened by the teeth and an improvised vise. Many a man has frozen to death with a new-fangled safe full of dry matches in his pocket.

If you are not going to hunt, a Marble pocket ax is all the weapon you need.



OLD FUR PRESS AT THE HUDSON BAY POST, LONG POINT, QUEBEC

This post was discontinued a few years since, owing to the scarcity of furs. A few woods Indians are seen in the background. This band, having refused to be confined on a reservation, have no official existence, and receive no government aid.

To hear large noises in the brush at night and to find bear tracks there next morning is, we well know, disquieting to tenderfoot nerves, yet all guides agree that aside from flies and accidents, one has nothing to fear in the woods except when the bull moose (no political allusion) snorts forth late in September to fight anything that moves.

For the flies, including all winged "varmints," the one sure defense is the *cheesecloth* box, say seven feet long, four and a half wide, and five or six deep, open *only* at the bottom. After about a foot deep of small fir boughs have been piled in the little tent at night, the ground cloth and blankets laid over them, then the box is suspended by strings from its upper four corners, high enough to still leave a foot or two of its walls lying on the blankets. The would-be sleeper now crawls under, tucks the excess cheesecloth under the blankets all around, and laughs at the roar of mosquitoes robbed of their prey.

For waking hours every man of course has his trusty variety of mosquito dope, his pathetic confidence in which is usually not shared by the other members of the party. And in regard to that little pleasantry in the resort literature about the flies not bothering after the first of August, one wonders what it must have been before that. It has to be admitted, though, that as the nights begin to get chilly, the "skeeters" may eat you alive while you are making camp, yet by bedtime there will not be one in sight.

As to food, every one has his own ideas. It need only be remembered that water is plentiful, so that weight is saved by having food in as dry form as feasible; even milk and vegetables can be bought dry in the large sport marts. A very satisfactory food is the package kind of seeded raisins, to spice up oatmeal, etc. Also, since camp bread requires considerable time as well as stomach power, it may be remembered that a substantial, unsweetened whole-wheat cracker makes

THE GREAT BARK FREIGHT CANOE ON HER LAST VOYAGE

The Grand Trunk Pacific line, having given this region faster and cheaper service, superseded the old canoe freighters. This view shows the picturesque transportaion furnished a Catholic bishop's party in touring the woods missions.

very satisfactory bread, weighs no more than flour, is always ready, and is most appetizing when toasted before the fire. At the Hudson Bay Company's stores (locally known as *the* Company) a very good ship biscuit may be bought.

By all means choose a route marked by a Hudson Bay post. Aside from the romantic historical associations, the very stock in trade of the great store is of much interest to the visitor from civilization,— the moccasins and other articles made of moose hide, the great hides themselves, patiently tanned with infinite pulling and stretching by the woods Indians. Overhead are packs of snowshoes, and all around are saws, axes, great steel traps, and tumplines. By means of a tumpline the voyager carries his load of a few hundred pounds across the portage, suspended by the broad band from the top of his head, and resting on his stooping back. The quantity of Perry Davis Painkiller seen on the shelves causes comment. We are told with a twinkle that the law does not allow them to sell *pure* alcohol to the Indians. The "factor" in charge of the post insists that the Indians drink the painkiller as they would whisky.

These Indians are a likable sort, particularly pleasing to the photographer because, unlike most of their race, they enjoy being photographed. Quite a camp of them may be found near a post in August, following which each family with its dogs paddles silently away into the beyond, to their own hunting ground, to see no human faces probably until the following August, when they come again to sell their furs and to visit together a bit. They speak the Ojibwa language, and are greatly pleased to discover that you know some of the Ojibwa names of plants and animals, which you remember from Hiawatha.

The poor Indian has a hard time in the woods now. Various epidemics, the one of about seven years ago being very severe, have killed off the rabbits, and not only the Indian but most of the fur animals lived on the rabbit. The result is famine, and suffering in many instances. Their sledge dogs also died of the rabbit disease. Aside from that, the Indian's great affliction seems to be eye trouble, probably from snow blindness in winter and the smoke of his fire any time. They are heavy tea drinkers. They live in cotton A tents, often without a fire,

in a country where, as in the winter before our last cruise, the temperature did not rise higher than forty below for three solid weeks.

The Catholic Church has been very active among these Indians, and the most who are not pagans seem to be Catholics, and very devout. The girls, at least, may be seen spending Sunday morning in their tents quietly reading their prayer books in the Ojibwa language, of which the only recognizable word is *Gitche Manitou* (Jesus Christ). Some women we saw there had come alone in their canoe more than a hundred miles to be present at one day's services in the mission.

A LITTLE WOODS BRIDE

At home in the forest, awaiting her lord's return from his traps.

And honest! why, one wizened old man whom we called Smoke-in-the-Eye came over to our camp one morning much distressed, with two of our crackers in his hand. He finally made us understand that his dogs had run off with them, and that he was returning them, with profound gruntings of apology.

As to where to go, men who have cruised almost the whole of the lake country, from Muskoka to Hudson Bay, have assured me that for all-round advantages of accessibility, wildness of scenery, abundance of game to be seen, easy portages, and all the other things desirable, there is nothing equal to the Temagami forest preserve, which is only one night's ride north of Toronto.

If you must be back at any particular time, and the route has any open lakes in it, remember that the canoe does not travel on a schedule, and that it is no uncommon thing to have to lie windbound for days, while your excursion ticket keeps right on expiring. Impress it on the guide as to when you must be back, and don't plead to go farther than he says.

THE NATURE, CAUSE, AND TREATMENT OF CONSTIPATION

G. H. HEALD, M. D.

Many regions have their local health problems — the prevention of malaria, typhoid, pellagra, hookworm infection, plague, etc.— to be solved by an efficient public health administration. Constipation is an ever-present malady, not confined to any locality. It is not an infection. It is not a public health problem. It is emphatically a problem for each individual to solve for himself. The purpose of this series of articles is to give information regarding the most approved methods of combating constipation.

The Digestive Tube

WHEN food is eaten, it enters, not the body proper, but a tube about thirty feet long, which passes through the body. This tube, known as the alimentary canal, or alimentary tract, is a device in which the food may be finely divided, and by means of certain "juices" changed chemically into substances fit for absorption into the blood stream. In the wall of this tube are grinders (the teeth) for reducing the food, and glands for producing the juices necessary to lubricate the food for its onward passage, and to digest it, or prepare it for absorption.

The wall of the tube is also provided with a mechanism — muscular and nervous — for propelling the food along the tube and for expelling from the body the residue that is not utilized. It is this propulsive function which is disturbed in constipation, and with which we are concerned in the present study, though there may be other changes, such as the alteration of the bowel secretions.

The digestive tube in man is about thirty feet long. The only part under control of the will is the first portion — the mouth and the upper part of the throat. Until the food is swallowed, it is under voluntary control. After that, the action of the tube is entirely automatic. If we desire to control the functions of the tube, we must do so at the mouth, making a proper selection of food, and preparing it by thorough mastication before swallowing it. There is a limited control of the tube at the exit; that is, when there is a call to relieve the bowels one may refuse to answer the call, and by muscular effort may delay the action, or one may sometimes hasten action by muscular effort; but this exercise of voluntary control, if too freely exercised, may result in harm, as will be explained later.

The tube varies in size, the largest expansion being the stomach, which follows next in order after the comparatively short throat, or esophagus. From the stomach the flow is through a small and very contorted tube somewhat more than twenty feet in length, called the small intestine. At a point near the right groin the small intestine empties into the large intestine, or colon, which is divided into three portions,— the ascending colon, extending upward to a point near the lower border of the ribs; the transverse colon, reaching across to the left side; and the descending colon, passing down to a point near the left groin. Next there is a convoluted or S-shaped portion, known as the sigmoid flexure of the colon, and finally a straight portion known as the rectum, ending in the orifice known as the anus.

There are in this passage several constricted portions, or sphincters,— one at the entrance of the stomach, another at the outlet of the stomach, and a third at the anal orifice. Then there is a valve, the ileocecal valve, at the junction of the small intestine and the colon, which permits the contents to flow forward but not backward.

Through its entire length the tube has muscular fibers in its wall, whose function it is, by causing wormlike contractions of the tube, to churn and mix the food, and propel it forward. In constipation there may be a tightening of the sphincter muscles, or more frequently a

weakening of the propulsive muscles, or what amounts to the same thing, a lack of sensitiveness of the nervous mechanism controlling the muscles.

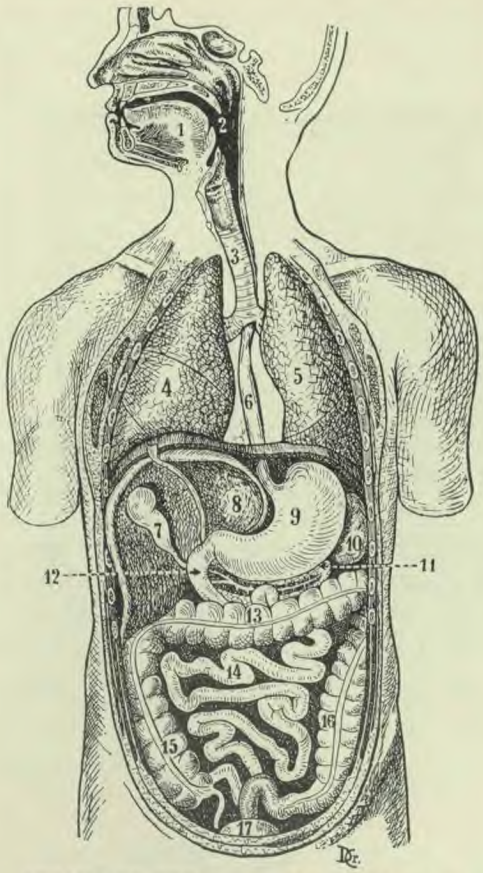
What Is Constipation?

Constipation is an abnormality in the intestinal discharges, characterized by infrequency, dryness, and lessened quantity. Just what amount of variation constitutes constipation is a difficult point to decide, for persons who appear to be in perfect health vary within somewhat wide limits. Some persons consider themselves constipated and complain of ill effects if they fail to have two or three abundant movements a day. Others seem to be in good health who have movements at intervals of one, two, or three days; and cases have been recorded where movements were at intervals of two weeks or more, without apparent ill effects. But ordinarily one who does not have daily movements at approximately the same time of day, is considered to be constipated. There are, of course, great variations in the degree of constipation.

Sometimes constipation is manifested not by infrequency, but by variation in quantity or quality of the discharge, being small in amount or impacted, or both, and movements being accompanied by more or less distress.

Again, there is a type of constipation which is detected only by giving the patient charcoal or some other pigment with the meal. In such cases it may be demonstrated that although the movements occur at proper intervals, and are soft and voluminous, yet too much time elapses between the ingestion of the food and the discharge of the residue. This latent constipation, of which the patient may have no knowledge, may be a contributing cause of autointoxication, with its multifarious symptoms.

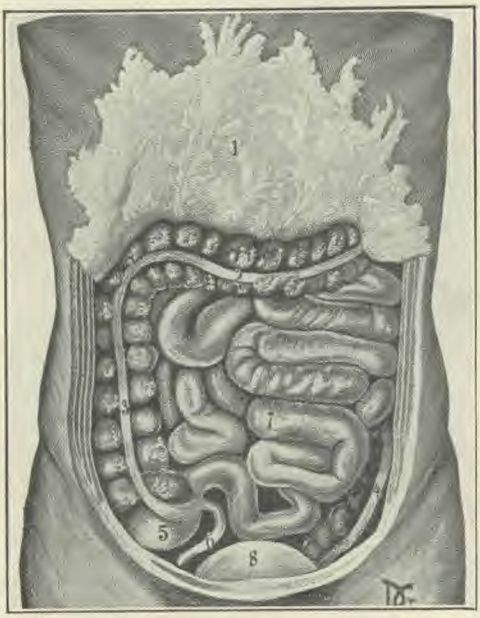
There is a great difference in the minds of medical men regarding what constitutes constipation. For instance, one author defines chronic constipation as "a condition of the bowels from which fecal movements occur only when provoked by stimulation through medication or enemata." And there are multitudes who suffer from that form of constipation.



ORGANS OF THE CHEST AND ABDOMEN — SEMIDIAGRAMMATIC

It is in the large intestine (15, 13, 16) that the food remnants harden. In the small intestine (14) the contents are fluid. A more correct view of the abdominal contents is shown in the next illustration. The food passes from the stomach (9) into the duodenum (12), then into the small intestine (14), then into the large intestine (15).

But some authorities believe that this does not include all cases of constipation by any means. For instance, one manual states that "the normal man or woman should find no difficulty in having complete movements regularly two or three times a day by merely living a reasonable life, being careful especially to avoid overfatigue, to include sufficient bulk in the food, to take regular exercise, including, in particular, breathing exercise, and to maintain an erect carriage," the inference being that those who do not have movements so frequently are to that extent constipated; and that this is no small matter is further attested: "The injury which comes from the retention of the body's waste products is of the greatest importance. The intestinal contents become dangerous by being too long retained, as putrefying fecal matter contains poisons which are harmful to the body. Abnormal conditions of the intestines are largely responsible for the common headache malady, and for a generally lowered resistance, resulting in colds and even more serious ailments." And the tendency of late has been to attach increasing importance to the influence of intestinal poisons on the health.



ABDOMINAL CONTENTS

The omentum (1), or apron of fat which normally covers the intestines, has been thrown back, hiding the stomach from view.

The Nature of Constipation

When the bowel is functioning properly, certain secretions are thrown into the tube, and the muscular layers of the intestinal wall cause the food to move slowly onward. In the small intestine the contents are fluid, but in the large intestine absorption gradually abstracts the fluid, and the consistency of the mass increases.

In constipation there may be a lack of balance between secretion and absorption, so that the bowel contents become abnormally dry, but ordinarily this dryness is the result of prolonged stay in the tube, and is secondary to sluggish movement. There may be feebleness of the musculature of the intestinal wall, but more likely there is a lack of sensitiveness to stimulation. This insensitiveness is usually caused by the use of artificial stimulants, such as cathartic drugs, though frequent enemas may have the same result. It is a principle governing all functions of the body, that if they are performed under artificial stimulation, the body comes to depend on stimulation and refuses to act without it. This principle is so well understood that it needs only to be referred to. It is as easy to form a cathartic habit or an enema habit as it is to form a tobacco habit or a liquor habit.

Another condition present in constipation is insensitiveness of the lower bowel or rectum. Normally when the fecal matter reaches the end of the intestine, it causes a feeling of uneasiness that almost compels one to seek relief; but if one in the performance of his social obligations or his tasks resists the impulse, the uneasiness finally ceases. This method of disarranging nature's mechanism may be repeated until one can easily resist the impulse, and gradually the

(*Concluded on page 424*)

THE NAPOLEON OF WATERLOO

JAMES FREDERICK ROGERS, M. D.

A DISCUSSION of the Battle of Waterloo always leads the critic sooner or later to the question of Napoleon's physical condition as affecting its outcome. No one appreciates the significance of this matter more than the experienced military man. One of the greatest of these, Frederick, noted early in his career that "an army goes on its belly," and he was doubtless as fully aware that the effectiveness of his troops in battle depended, to a large degree, on his own state of nutrition and bodily well-being.

Military movements may be outlined at ease, in a quiet room, but plans, once made, cannot be executed at convenience. Moreover, battles seldom go according to program; the position and possible movements of the enemy are never certainly foreseen, and besides, the failure of subordinates to carry out orders may defeat the best-laid plans of the finest military genius. Only by his personal presence can this genius determine the opportune time to strike, detect his own misconstructions as to the whereabouts and purposes of the enemy, and correct the blunders of his own lieutenants.

But the mere presence of the commanding officer is insufficient. He must be alert, clear of head, with nothing to hint of postponement or laxity of effort for the sake of personal convenience. A toothache will warp the judgment of the best of thinkers, and might cause fatal procrastination on the part of a commanding officer. A dysentery will depress a saint, and render any man incapable of prolonged effort; a diarrheic general may fail where in health he would have triumphed.

True, there have been generals who were not in the sanest bodily state,—the "hunchback" Duke of Luxemburg was one, and "that asthmatic skeleton," the Prince of Orange, another,—but your Cæsars and Alexanders, your Condes and Turennes, your Washingtons and Lees, were better put together. Besides, your feebler general usually founds his reputation upon the good deeds of his subordinate officers. Napoleon leaned less upon his staff, perhaps, than any other commander, and in the Hundred Days he had fewer capable marshals than in his earlier campaigns. Alas, too many of those devoted men had become food for cannon!

Napoleon's sun had reached its zenith in 1805, ten years before Waterloo. The Napoleon of Austerlitz was thirty-six years of age. He was suffused, soul and body, with the potent elixir of success, than which nothing helps more to heighten all the bodily functions, and marshal them into that harmony of action which we name health. The outer man showed the effect, for the little artillery officer of Toulon, "remarkable only for his extreme thinness and sickly look," had "just rounded to a fulness which indicated abounding health and vigor." No other man has ever displayed such bodily powers. He knew no fatigue, or recovered so much more promptly than those about him that they alone showed its effects. "It would require constitutions of iron," complained one of his cabinet, "to go through what we do." His councils lasted sometimes for ten hours at a stretch, and beyond the power of some of his ministers to stand the strain. He could work with Napoleonic force continuously for eighteen hours. He said of himself, "I am conscious of no limit to the work I can get through."

Was the Napoleon of Waterloo the Napoleon of Marengo and Austerlitz? Could the Napoleon of 1815 sit in the saddle from morning to night for five days, and go without sleep for a hundred and twenty-four hours at a stretch? Ten years had passed. During this time Napoleon was emperor. This in itself is significant. As a striving youth, and as the ambitious general of the armies of the republic, he had been temperate, to asceticism. As emperor, arrived at a superlative pinnacle of fame, he was subject to influences which tend insidiously toward the cultivation of bodily comfort and ease. When one cannot afford luxury, and when ambition to attain some object is paramount, the desire for present comfort may be obliterated, and it is easy to live in Spartan simplicity. When laurels are won, it is difficult not to fall " out of training " and to be dominated more and more by sloth, the appetites, and by what were previously considered but trifling bodily weaknesses.

With all his phenomenal powers of endurance, Napoleon's apparent indifference to the discomforts of the camp, and his steely hardness against the horrors of the battle field, were but the veneer laid on by necessity and ambition. He was, at the core, extremely sensitive to sensory influences. He was nauseated by tobacco, and used snuff only to trifle with in moments of nervousness. The slightest bad odor and some much-used perfumes were intolerable. He used cologne constantly, and had aloewood burned frequently to sweeten his apartments. He was uncommonly sensitive to air contaminated by human presence. He suffered from cold; his bed was warmed for him the year round, and he often had a fire in his rooms in July. He even blanched at the remembrance of the touch of blood upon his fingers. A lesser man might have taken to the use of narcotics of some sort to benumb his hyperesthesia. Napoleon would do nothing which consciously weakened his mental powers; but the stoical veneer was wearing off under the new conditions, and a fairly Oriental appreciation of luxury was asserting itself more and more.

Napoleon was very temperate in his use of wines, and never intemperate (according to the general habits of his age, and of our own age, for that matter) in meats. He never, save perhaps in the Russian campaign, allowed himself to spend more than a few minutes at the table, though he managed to stoke his fires with great rapidity; but, as emperor, he was eating more and allowed himself to be interested in fancy and fattening dishes. His intake of food was overbalancing his muscular work, and he was, in consequence, becoming obese. But obesity, in turn, makes activity less easy, and often adds its burden to other ailments. Napoleon was insidiously beset by these, in the form of hemorrhoids (which he himself had " cured " and forgotten during the activity of the Egyptian campaign), and later, of an annoying though not serious bladder complaint. Both affections always seem trifling when considered objectively, but may be of tremendous concern to their possessor. They also conduced to bodily inactivity, and for their relief the emperor spent hours in steaming hot baths, a practice which did not conduce to general vigor.

Up to 1807 Napoleon was yet in matchless health. But by 1810 he had begun to speak of his health as only " fair " or as " pretty good." That he even contemplated his bodily state meant that it was not what it had been.

The Napoleon of Austerlitz had achieved a long and increasingly brilliant series of triumphs. The Napoleon of Waterloo had met defeat at Aspern in 1809, had been crushed between Moscow and the Beresina, and the mental depression of these losses was no antidote to the enfeebling tendencies of the imperial habits.

In the soul-cramping confines of Elba the vitality of the Titan had still less of stimulus, but though the Napoleon of Elba was not the Napoleon who led the troops upon the bridge of Lodi, he was still Napoleon, and the English ambas-

sador, Sir Neil Clark, remarked, " I have never seen a man with so much activity and restless perseverance; he appears to take pleasure in perpetual motion, and in seeing those who accompany him sink under fatigue." His activity was not, however, so continuous as in former years, and it was noticed by those who knew him intimately that he fell occasionally " into a state of inactivity never known before," that he took less exercise and spent more hours in bed, and that he was becoming " very stout, and his cheeks puffy." One of his cabinet ministers observed that the emperor could not stand prolonged work as formerly.

It was this Napoleon, just escaped from captivity, who began the campaign of Waterloo. He got through an immense amount of work in those fateful days. He was Napoleon, but he was not the Napoleon he had been, for he showed evident fatigue. He was not ill, though his local ailments had become more domineering, but he was out of training — some years out of training. On June 12 he rode seventy miles in his carriage. On the fifteenth he sat on his horse for nearly eighteen hours, though he dozed during an interval of rest. On the morrow he showed great weariness, and he did not ride abroad until two-thirty; nor had he fully recovered by the seventeenth.

This was not the Napoleon whose mind and body Chaptal had declared " were incapable of fatigue."

Critics say that the Battle of Waterloo was planned by Napoleon with consummate skill, but most of them find that in carrying out his plans the emperor was dilatory in movement and was lacking in the old unerring insight into events. It is certain that he did not enter personally into the combat, as at Lützen and elsewhere, though perhaps the bravery of his troops made this unnecessary. There was much besides to account for his defeat; but that Napoleon's decline in physical endurance and, therefore, in keenness of mental vision and in ability to manage details, finally wrought his ruin, can hardly be questioned. He was, in body and spirit, as he had remarked to Çonstant, prematurely old — a hypersensitive, plethoric, fatigued, though still Napoleonic being.

Mental depression and chagrin magnified bodily weariness, and the Napoleon swept hurriedly along through the night with the harried fragments of the defeated army seemed pitiable enough in his exhaustion to those who could find pity for him who had been so pitiless,— for him who, possessed of the most extraordinary powers of body and mind, had fallen through the selfish abuse of those superhuman gifts.

No matter what errors of technique may be found by the students of military science to account for Napoleon's failure in his last campaign, the student of physiology sees ample reason in the decline of his physical powers to account for the imperfect working out of the most perfect plans. His own successes and the excess of ease and luxury which followed, had done their share, with the combined military powers of Europe and the exhaustion of his own country, to accomplish the downfall of a being who, after a hundred years, is still the most marvelous of men.

FOREIGN PROTEINS AND DISEASE

G. H. HEALD, M. D.

ONE of the most remarkable chapters in the history of biological science is that relating to the discovery of the way in which bacteria cause disease and death in the higher animals. In the research connected with this discovery, Vaughan of Ann Arbor has been a pioneer, and his story of the discoveries made by him and others reads like a fairy tale. Incidentally these discoveries topple over some of our supposed knowledge and pet theories as if they were a house of cards.

As in all great discoveries, so in this, there is much that appears accidental. We are told that it was an apple falling to the ground that led Newton's great mind to grasp the idea of the pull of one star on another. But how many before him had seen an apple fall, with no such result! Galileo was not the first to observe a swinging chandelier; but to him this circumstance, so trivial as to pass unnoticed by the thousands, suggested a line of thought which led to the formulation of the law of the pendulum.

Often had the query been asked and the solution sought, Why is it that one organism, or "germ," is capable of producing disease in an animal which another germ, growing in apparently the same way, is incapable of doing? For many years it was supposed that disease germs were capable of producing a poison which other germs were not.

A series of experiments on animals developed the fact that the injection of dead bacteria into the peritoneal cavity of animals caused more or less disturbance of health. But the different varieties of dead germs were not equally injurious to animals when thus injected; and strange to say, the germs generally known as harmless or nonpathogenic, when injected dead into an animal, were often more violently poisonous than were the dead disease or pathogenic germs.

For instance, a very minute dose of the harmless germ *prodigiosus*, when injected into a guinea pig,— 1 part by weight of dead germ to 90,000 parts of body weight,— kills 100 per cent of the guinea pigs so treated; and 1 part to 2,000,000 parts of body weight kills some of the guinea pigs. This is, therefore, a very violent poison. On the other hand, it takes a very much larger dose of dead anthrax germs (a germ which, when alive, is very destructive to guinea pigs) to kill the animal; and the tuberculosis germ, to which the guinea pig is extremely susceptible, may be injected dead into the abdominal cavity of the animal in large quantities without producing any marked effect. The animal will not be made sick and its life will not be shortened by the injection.

Here certainly was a puzzler. The more dangerous a live germ is, the more likely it is to be comparatively harmless when injected dead.

After a time a method was devised whereby the poisonous substance could be extracted from the bacterial cells. It proved to be a soluble poison, produced in the breaking down of the protein of the cells. Having found this same protein in both the disease germs and the "harmless" germs, or in the pathogenic and nonpathogenic bacteria, as they are more properly called, the query was raised whether other proteins might not be split up so as to yield a poisonous product. A number of animal proteins were tried,— the casein of milk, and the proteins of blood, muscle, and various tissues of the body,— and all could be made to yield the same poisonous substance. Next, various vegetable proteins, from wheat, corn, and other sources, were found to yield the same poison.

In a general way, this poison is the same whatever the source of the protein, though there are minor differences in the chemistry and in the effects produced. Curiously, the food of all foods, upon which the young of all mammals are

reared, the casein of milk, gives a more abundant yield of the poison than any other protein. From one grain of casein — a piece little larger than the head of a pin — enough poison can be extracted to kill fifty guinea pigs. If given by the mouth, these poisons are harmless, as they are changed in character before absorption; that is, they are broken up into amino acids, or "building stones," and when absorbed, are built up into such proteins as the body requires. It is when they are injected into the abdominal cavity or into the tissues by means of a hypodermic needle that they manifest their powerful effects.

Now if all germs yield such a violent poison, why is it that some are pathogenic and others are not? Why are they not all pathogenic?

In order that a germ may be pathogenic to a certain animal, it must be capable of growing and multiplying in that animal. It must be able to feed on that animal's body. To feed on the tissues, it must be able to digest the tissues by means of the ferments it throws out, just as the stomach digests food by means of the ferments it throws out. Hence, for a germ to be pathogenic to a certain animal, its ferments must be capable of digesting the tissues of that animal.

On the other hand, the tissues of the body are supplied with ferments with which they digest for absorption and assimilation the material surrounding them. By means of these ferments, the tissues are often capable of digesting foreign matter that may get into the body. If the body cells are able to destroy immediately the first germs that get into the body, so that they cannot grow or multiply, the body is immune to that germ.

Now why is it that an animal that is immune to a certain germ in a living state, will succumb when a sufficient quantity of the same germ is injected dead? This appears to be the answer: If a few nonpathogenic germs get into the blood, they are digested immediately, and there is no growth and multiplication, and there is so little of the poison liberated that the body is able to take care of it. But if the germs are allowed to multiply outside of the body, and enough of them are injected into the body, the animal tissues split them up by means of the ferments, setting free a comparatively large quantity of the poison, and the animal is made very ill and may die. The same thing occurs if a quantity of dead germs are injected.

Why will not the pathogenic germ, when injected, have the same effect? Why will not the dead tubercle bacilli, injected into a guinea pig, kill the animal? The reason is that the cells of the guinea pig are not able to break up the cells of the tubercle bacillus; hence the guinea pig is susceptible to tuberculosis. It cannot break up the living cells, and as a result, even one live cell may continue to grow in the animal and multiply until the latter is overpowered. It cannot break up the dead cells, and is thus spared from having the poisons of the dead cells scattered in its body.

When a quantity of dead tubercle bacilli are injected into a guinea pig, they are gathered in a fold of the omentum, like so much charcoal or other foreign matter, and are there walled off, a comparatively harmless mass, though around the mass a tuberculous nodule will be found, which, however, does not seem to injure the animal materially or shorten its life.

Now another phase of the problem. A susceptible person drinking water containing typhoid bacilli does not immediately come down with fever. There is a period of from six to ten days during which the germs, feeding on the person's tissues, are rapidly multiplying in the intestinal tract. Though there are countless millions of germs, perhaps billions, there is no symptom of any disturbance. In fact, the patient may feel even better than usual. From this it is evident that the growth and multiplication of germs in the body do not produce disease. Finally the body cells learn how to destroy

the invading germs, and in destroying them they set free the poison which causes the condition we call typhoid fever. Like Samson, who in destroying his enemies destroyed himself, so the body cells in destroying the typhoid germs set free the poison which is their own undoing.

This may explain why it is often the most vigorous who are attacked and who succumb to typhoid and pneumonia. The very vigor of the cells in destroying the bacteria sets free an overwhelming quantity of poison in the system.

Now this subject of poisonous split proteins is very closely connected with the subject of sensitization, or, as the medical men like to call it, *anaphylaxis*.

But do not get frightened at the word; a few examples will indicate what is meant by this intruder into our language: —

Brown cannot eat strawberries. If he does, his body is sure to be covered with an intensely disagreeable eruption known as hives. He has been sensitized to strawberries, and will probably never again have the privilege of enjoying them in peace.

Jones cannot eat egg in any form. If his rolls or his custard or ice cream contains the least bit of egg, even if he knows nothing about it at the time, he will be a very sick man for a few hours. He is sensitized to egg protein.

Williams has trouble every time he uses the least quantity of milk in any form. He is probably sensitized to one of the proteins of milk. He does not know what is the matter, but experience has taught him that every indulgence in milk is sure to be followed by disastrous consequences.

Smith has hay fever every fall. When the pollen from a certain plant, usually ragweed, begins to fly, he begins to sneeze, and continues to have a miserable time until frost kills the last of the ragweed. He may not know what is the cause of his trouble, and possibly his sympathetic neighbors may think it is all autosuggestion and imagination on his part. He expects that he will have an attack of hay fever on a certain day of August, and sure enough it comes. The doctors have come to the rescue of this unfortunate and misunderstood man, and have shown that he is sensitized to the protein in the pollen of some plant. When that pollen comes in contact with his nasal mucous membrane, some is absorbed and sets up the reaction with which we are so familiar.

Now, what is sensitization? It seems to be something like this: a little foreign protein gets into the blood through an abrasion of the skin or mucous membrane. The tissues learn to destroy it. At the first the process is slow, and the body may be able to take care of the poison as fast as it is elaborated, without causing any disagreeable symptoms; but afterward, if any of this same protein gets into the blood or into the tissues, the body is prepared to destroy it promptly, and as the poison is liberated rapidly, there is severe illness. The individual is sensitized to that particular protein, for the reason that his tissues have learned how to destroy the protein rapidly.

TREATMENT OF EPILEPSY

S. GROVER BURNETT, A. M., M. D., KANSAS CITY, MO.

The following abbreviation of a paper which appeared in the *Medical Fortnightly*, April 15, 1916, may be accepted as authoritative, as Dr. Burnett is the attending alienist and neurologist to Grandview Sanitarium for mental and nervous diseases. His paper is the result of twenty-five years' experience in the treatment of epileptics.

I CONTEND that many epileptics are made free from attacks for years, if not for all time, by carefully studied and properly applied treatment; that epileptics are mentally oriented, clearer headed, and happy and useful citizens if free of the attacks; that with the attacks their usefulness is limited, and they are morbidly oppressed; that with the attacks continuing, the postepileptic, benumbed mentality tends to become fixed; that the untreated attacks tend to increased severity, to increased frequency, and to serious mental deterioration, meaning epileptic insanity or dementia or both.

It is not possible in private practice to keep all cases under treatment routine long enough for results, neither can all cases be traced over a sufficient period to make the records of value. While this can be done in asylum practice, the average epileptic sent to the asylum is so mentally deteriorated that he is committed for safe keeping rather than for any therapeutic aid. Therefore this paper excludes those epileptics needing incarceration and safety supervision, and includes only the many idiopathic cases, including baby spasms,— called worm spasms,— teething spasms, convulsions in children, youths, and adults. All baby spasms are the convulsive buds that mature later into fixed epileptic seizures. They should be systematically treated from the first, and many babes might be saved from an adult life of habit convulsions. All these idiopathics can be much better treated in the free open air and wholesomeness of the average rural or semirural American home than in any public institution, offering little else than incarcerated supervision, and only intended for those having passed into the impossible and irredeemable class. . . .

The attacks cannot be controlled until the patient or the parents or both are educated up to the full understanding that a routine method of medication established must be carried out with clocklike regularity, and that no habit indiscretions are permissible, and that living habits must be as laid down in each case. Often the attacks are absent for months, and then return as a result of carelessness. . . .

Auxiliaries to Treatment

First, all irritating causes should be removed. They encourage the convulsive tendency, but do not cause convulsions, primarily; therefore tea, coffee, alcohol, and tobacco should be prohibited as direct irritants, or as disturbers of digestion and then irritants, or as disturbers of the vascular tone to cause nerve unbalance. A lithemic state should be corrected by the usual remedies and diet. Reflex irritations are to be considered, but the physician should not do fool things. . . . It's the little, seemingly insignificant error of refraction that constantly bombards the unstable brain cell with irritating and nagging impulses

until an explosion results. The failure to carefully refract the *little* error is an incompetency peculiar to many oculists; but this irritation removed, like irritations of the nose, ear, throat, gastrointestinal tract, and sexual organs, including sexual indiscretions, does not cure epilepsy.

The cause of epilepsy is a disease of the angular cells of the second layer of the brain cortex. This diseased cell is no longer able to inhibit the action at all times of the motor cortex cell, the function of which is to store up and discharge energy. Through this weakened control, like the horse with an irresponsible driver, under conditions of overstrain or irritated tension the cell chemistry is unbalanced, and a discharge of energy takes place — a fit.

The treatment of epilepsy means subduing all irritation to these fit habit cells until gradually they gain self-control, and until the inhibiting cells over them have sufficiently recovered their interior chemical status to hold them firmly from misbehaving, like the strong, firm-handed driver over the fractious horse.

Physical Care

Second, care for all the emunctories gently, gradually; use no forceful, radical measures. All nervous conditions are weakened and irritated by them, therefore nature resents them, is insulted by them. Purgation irritation, like constipation, may induce an attack. Regulate the bowels gently. One half to a tablespoonful of liquid petrolatum at night and morning, if necessary, helps much in constipation tendencies. Water is the epileptic's friend. Drink plenty of water one hour away from the meal, but not much at the meal to slop the stomach. A glass of *plain* hot water one hour before meals washes the stomach mucosa in delicate digestions, and leaves it pink and clean for the meal. Water also increases vasomotor tone and equalizes the circulation. On rising, the patient standing with feet in comfortably hot water, [may be given] a sharp spat of cold water, or [may be] self-whipped with a cold wet towel and a brisk rub. Less vigorous persons [should] dress to the waist, [and have] feet warm, a towel around the waist, [and] a cold spat and a brisk rub. Vigorous persons should have pleasant physical exertion until perspiring, two or three times a week, followed by a cold sponge and rub down. Less vigorous persons can use the hot-box sweat, but not to the extent of feeling weak or depressed afterward. Better still is the four to seven minutes in the electric light bath,— using sixty to seventy sixteen-candle carbon lamps for the heat, light, and chemical rays,— perspiring freely, followed by a cool sponge and brisk rub. This invigorates the metabolic and katabolic process wonderfully, raises the temperature, and never leaves a depressing subnormal temperature in delicate people, as high-degree moist heat baths frequently do.

Mental Care

Third, the limitation epilepsy places on every activity — social, business, or pleasure ambitions of the individual — is almost suicidally depressing. For this reason some pleasurable interests should be woven into the daily mental occupation. The nerve status is greatly toned and balanced by a mind employed in a passively pleasant way. Mind employment of the stressed and strained and disinteresting type is nerve racking. Enforced idleness is most regrettable. Unfortunately children must be taken from school because of the stressed nature and taxation of the training. This is especially true of the young, precocious *petit mal* child often seen. In all, careful educational training, practical and full of interest, is necessary to keep the nervous system quieted and evenly balanced.

The rest of this article deals with the administration of bromide, which the author believes in, and which, he says, is often followed by bad results because physicians do not know how to give bromide.

CARE OF THE BABY IN SUMMER

Fretfulness

BABIES and young children frequently suffer from thirst. They should be offered a drink of water several times a day, particularly in hot weather. If baby cries in the night, a drink may quiet him and send him to sleep.

Irritating clothing is at times responsible for baby's fretfulness. Woolen socks or shirts or stiff cap strings may spoil his comfort, even if he is well, and, in hot weather especially, a superabundance of clothing is frequently responsible for much real suffering.

Dress the baby in the lightest cotton garments and keep him as cool as possible. Do not be afraid to let him have nothing on but his diaper and one other thin garment on hot days.

Prickly Heat

One of the troubles from which a baby often suffers in summer is prickly heat. This ailment appears as a fine red rash, usually on the neck and shoulders, and gradually spreads to the head, face, and arms. It is caused by overheating, due either to the hot weather or to the fact that the baby is too warmly dressed. The rash comes and goes with the heat, and causes intense itching.

The remedy for it is to take off all the clothing, and give the baby a sponge bath in tepid water in which common baking soda has been dissolved, one tablespoonful to two quarts of water. Use no soap, and do not rub the skin, but pat it dry with a soft towel. After the skin is thoroughly dry, dust the inflamed surfaces with a plain talcum powder.

This ailment, like all others, is more readily prevented than cured. Frequent cool baths, very little clothing, simple food, and living in cool rooms or in the open air will probably save the baby from much of the annoyance of prickly heat and other more serious ills.

Chafing

Fat babies are liable to suffer from chafing, especially in hot weather. It appears as a redness of the skin on the buttocks or in the armpits, or wherever two skin surfaces persistently rub together.

Much the same treatment is required as in prickly heat. Never use soap on an inflamed skin. Instead use a soda, bran, or starch bath.[1]

Great care should be taken not to let the baby scratch the skin when it is irritated. Sift together two parts powdered cornstarch and one part boric acid, and use it freely on the chafed places. Remove wet or soiled diapers at once. Wash and dry the flesh thoroughly, then dust the powder freely between the legs.

Milk Crust

This is a skin disease affecting the scalp, in which yellowish, scaly patches

[1] Directions for these baths and for the training mentioned in the last paragraph of this article are given in a publication called "Infant Care," which may be had, free of charge, by addressing a request to the Chief of the Children's Bureau, U. S. Department of Labor, Washington, D. C.

appear on the baby's head. These patches should be softened by anointing them with olive oil or vaseline at night, and the head should be washed with warm water and Castile soap in the morning.

If the crust does not readily come away, repeat the process until the scalp is clean. Never use a fine comb or the finger nails to remove the crusts, as the slightest irritation of the skin will cause the disease to spread farther. The scales will usually disappear after a few days of careful treatment.

Constipation

If the baby does not have at least one full bowel movement in twenty-four hours or in thirty-six at the outside, he is in need of such care as will bring about this result. Breast-fed babies often respond to an increased supply of laxative food in the mother's diet. If this is not sufficient, a six-months-old baby may have a tablespoonful of strained orange juice between two of his morning feedings.

Bottle-fed babies may have fruit juice in the same way, and thin oatmeal gruel may be substituted for barley water in making up the feedings, after the baby is four months old.

Perhaps the best preventive of constipation is to teach the baby to move the bowels at the same hour every day. This training should be begun when the baby is three months old, and should be faithfully continued until the habit is firmly established. This practice establishes in the baby from the beginning of his life a custom which will greatly increase his chances for good health, and results in an enormous saving of work to the mother. She no longer finds herself confronted with a pile of soiled diapers to wash, but instead gives fifteen minutes of careful attention to the baby each morning.[1] Do not use enemas for the relief of constipation save in emergencies, and do not resort to purgative medicines except with the doctor's advice.

[1] See footnote on previous page.

THE NATURE, CAUSE, AND TREATMENT OF CONSTIPATION

(*Concluded from page 414*)

bowel becomes quite insensitive and fails to register the presence of fecal matter. Meantime the automatic mechanism which aids in the expulsion of the feces has become enfeebled, and every bowel movement necessitates a voluntary and strained effort. Perhaps the presence of fecal matter for long periods, with the effort to hold it back, has overdeveloped the sphincter muscle — the ring muscle at the end of the passage which prevents involuntary discharge — until it requires violent straining to force the hardened masses past the obstruction.

Another condition often present in cases of constipation is feebleness of the abdominal muscles — the muscles which have to do with the voluntary effort of expelling the feces. This is part of a general muscular inefficiency, the result of neglect to take physical exercise.

The next article will consider the causes of constipation, its accompaniments and results, and some measures of treatment.

THE TREATMENT OF SOME COMMON AILMENTS OF CHILDREN

J. EPSTEIN, M. D.

Dr Epstein's article in the May, 1916, *Medical Times*, which was intended primarily for physicians, contains some excellent instruction for mothers. The following abbreviation of the article omits instruction that would not be best for mothers to follow without medical advice.

Mothers often treat their little ones without having the advice of a physician. If some call the physician too often, for trivial ailments which they should be able to attend to themselves, some go to the other extreme, and run the risk of saving the expense of the physician's visit when such a visit might mean the saving of baby's life. Baby ailments are rapid in their progress, and the little one, apparently in the best of health, is suddenly down with a serious or dangerous malady. *In case of doubt call the doctor.*

Acute Tonsillitis

THIS is the most frequent disease in children, and because of its frequency it is looked upon as a mild and trivial affection which requires for its treatment a little calomel and a bottle of iron mixture.

While in the majority of cases there are no complications or sequelæ, tonsillitis is an important link in the chain of trouble which begins with the tonsils and ends with a crippled heart.

The general treatment of tonsillitis is that of any other acute infectious disease. The little patient should be put to bed and kept there on a liquid diet till the temperature subsides. The bowels should be kept open with a mild laxative. . . .

Cold wet compresses to the neck are very useful, and should always be applied, care being taken to see that they are properly placed under the angles of the jaw over the tonsillar region, and changed every two or three hours. A spray or gargle with a dilute solution of hydrogen peroxide, followed by a dilute solution of liquor antisepticus alkalinus, does much good. To prevent repeated attacks of acute tonsillitis, the mouth and throat should be kept in a healthy condition by proper attention to the teeth and by the daily use of some pleasant alkaline antiseptic gargle and mouth wash.[1]

[1] The most useful gargle is hot water, to which may be added baking soda, borax, or even common salt, which have cleansing and stimulating or soothing properties.

Acute Cervical Lymphadenitis (Enlarged Glands of the Neck)

Affection of the glands of the neck may be traced to a primary source of infection on the scalp, face, nose, throat, pharynx, tonsils, or mouth. . . .

As a local application to the cervical glands a cold wet compress of plain water, properly applied and changed three or four times a day, does more good than any ointment, and is cleanly and has no disagreeable odor. . . . Tuberculous lymphadenitis and enlarged glands due to some systemic disease must be treated according to the underlying disease.

Poor Appetite

Mothers frequently complain that their children do not eat enough. In the majority of cases these children look well nourished, and the poor appetite is only an imagination of an overanxious mother. Some children suffer from anorexia [loss of appetite], and look poorly nourished. In these cases a general physical examination for some gastro-intestinal disease or some chronic ailment should be made. If the physical examination proves negative, the trouble is usually with the management of the child, who eats what he wants and when he wants, but does not take sufficient wholesome food. The best treatment for such children is a proper and regular diet.

Acute Diarrhea

Diarrhea is a symptom of some disturbance in the normal functions of the

digestive canal. It may be due to,—

1. Intestinal infection.
2. Intestinal intoxication.
3. Intestinal indigestion.
4. Intestinal overload.

In cases of intestinal infection and intoxication, the children are usually very ill, and require individual study and special treatment. The majority of diarrhea patients coming to the physician are ill as the result of intestinal indigestion or overload. Intestinal indigestion is caused by improper food or feeding. The children are slightly ill, have a poor appetite and general indisposition, the bowels move frequently, and there is abdominal pain and slight fever.

The treatment in these cases consists mainly in the correction of the dietetic errors. In breast-fed infants nursing should be at longer intervals, while in bottle-fed infants the milk modification should be low in sugar, or protein milk should be given. Partial starvation in the beginning of treatment, and a mild laxative with little or no other medication, is beneficial. . . .

The simplest cases are those which suffer from what I call intestinal overload. These children are perfectly healthy in every way except that their bowels move too often. They receive proper food and proper feeding, but too much of it, so that their intestinal tube is constantly overloaded, and the diarrhea is nature's method of ridding the intestines of the surplus. The treatment consists in limiting the intake of food.

In all cases of prolonged or excessive diarrhea the body is drained of water and alkaline salts, the children become dehydrated ["dried up"] and subject to acidosis [acid intoxication]. It is therefore important in these cases, whatever the condition and the line of treatment may be, to give plenty of water and some sodium bicarbonate. The water improves the circulation and aids in the elimination of toxins, and the sodium bicarbonate prevents or neutralizes acid intoxication.

Chronic Constipation

In the majority of cases, chronic constipation is the result of insufficient food or of food that is too poor in those elements which leave a sufficient residue to stimulate peristalsis, or it may be due to irregular habits in bowel movement.

The rational treatment of this chronic ailment is not the constant use of medicines. If the infant is breast fed, and the milk cannot be improved in quality and quantity, complimentary bottle feeding should be given. . . . In older children, constipation may be relieved by regular meals three or four times a day with a liberal supply of whole-wheat bread, well-cooked green vegetables, and raw or cooked fruit. Plenty of water should be taken between meals. An active outdoor life and sufficient exercise should be insisted upon. . . .

Acute and Chronic Bronchitis ("Colds")

Acute bronchitis is usually very mild, and little therapeutic attention is given to it, but mild neglected cases frequently lead to broncho-pneumonia. . . .

The treatment of acute bronchitis should be on the general plan of the acute infectious diseases. The child should be kept warm and in bed in a well-ventilated but not cold room, on a liquid or very light diet. Since there is no specific medicine for the bronchial inflammation, the indications are to keep the skin, kidneys, and gastrointestinal tract in a proper physiologic condition [by bathing, free water drinking, and the use of laxative food]. A warm bath or a mustard foot bath or a mustard compress to the chest, followed by the application to the body of one or two hot water bottles, will stimulate the skin and cause an increased peripheral circulation and increased glandular activity. An active peripheral [skin] circulation relieves internal congestion and reduces the temperature. Plenty of warm water should be given during the first stage of the disease, to relieve the irritation along the trachea and bronchi. Steam inhalation may be given several times a day. A mild laxative should be given.

HOME COOKING SCHOOL

MACARONI; ITS MANUFACTURE, AND RECIPES FOR COOKING IT

GEORGE E. CORNFORTH

MACARONI is made from a granular meal, called semolina, which is ground from hard, semitranslucent varieties of wheat, rich in gluten, such as durum wheat. In the making of the semolina the bran of the wheat is removed and, by sifting, some of the starchy part of the wheat is eliminated, so that semolina is richer in gluten, the protein part of the wheat, its tissue-building food principle, than flour made from the same wheat. This semolina is mixed to a dough with water. This dough is thoroughly kneaded, then it is put into a strong, steam-jacketed cylinder into one end of which a die is fixed which is pierced with holes about one-fourth inch in diameter when macaroni is to be made, smaller when spaghetti or vermicelli is to be made. In the larger holes a pin is fixed, attached to the side of the hole, so that as the dough passes through the hole it is formed into a hollow tube. The tube is split at one side as it starts through the hole, but comes together before it reaches the end of the hole, and remains so, making a perfect tube. The dough is forced through these holes under hydraulic pressure. The next part of the process is the drying. This is done either by hanging the macaroni on rods or by laying it on trays in heated apartments through which currents of air are driven. The drying process takes from three to six days, according to the atmospheric conditions, the method used, and the quality the macaroni is to be. The drying must be done as quickly as is consistent with the production of the highest quality. If the macaroni is dried too quickly, it will crack or break.

By the drying process the macaroni is made as dry as the semolina was before it was made into macaroni, therefore the macaroni has the same high food value in protein and carbohydrate that the semolina has, but it is just as "impoverished" a food in cellulose and mineral elements as white flour or white bread or white rice, and, like other wheat products, it is deficient in fat; therefore there is need of combining with it other foods that supply the lacking elements. Milk and eggs furnish some of the elements lacking in macaroni. The tomato sauce so often served with it supplies mineral elements. The cheese with which macaroni is perhaps most often prepared is rather lacking in mineral elements. And macaroni, in all the ways in which it is served, is lacking in bulk or cellulose.

A few years ago the best macaroni was made only in Italy or other parts of Europe. But at the present time the best macaroni in the world is made in the United States, especially when sanitary methods of manufacture are considered. The durum wheat is grown in this country now, and the most scientific and sanitary methods of manufacture are used here.

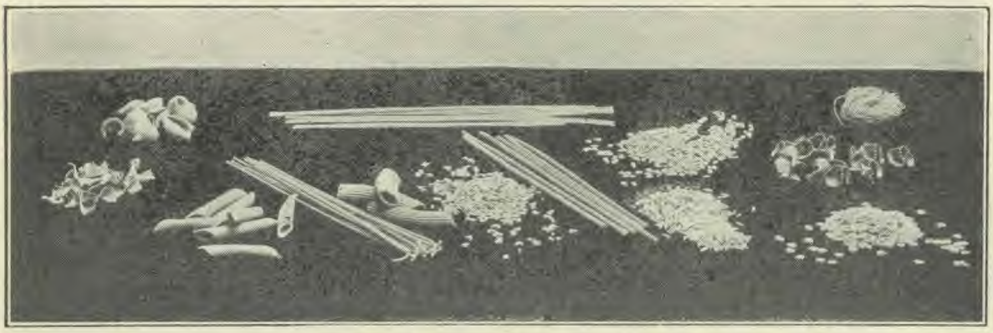
The best macaroni is smooth and elastic, has a creamy color, and looks somewhat translucent. It breaks with a smooth, glassy fracture, and does not split when broken. The inferior quality that contains coloring matter is rough, has a floury instead of glassy appearance, and splits on breaking.

Recipes

The method of cooking macaroni is similar to the method of boiling rice. Macaroni should not be washed or soaked. Washing or soaking softens the outside of the macaroni so that it sticks together, making a pasty mass, while well-cooked macaroni is slippery, every piece being whole and separate. If it seems necessary to clean macaroni, it may be whipped with a dry cloth, but, really, macaroni should be as clean when it comes to you as when it is made, and should require no cleaning. The macaroni should be broken into inch-length pieces, or the ready-cut macaroni may be used, which is more convenient and needs no breaking. The macaroni should be put to cook in actively boiling salted water, using two quarts of water and three teaspoonfuls of salt to each cup of macaroni, and boiled rapidly from twenty minutes to one hour, according to the age and size of the macaroni, stirring it occasionally so that it will not stick to the bottom of the saucepan. When done, the macaroni is soft enough to be easily mashed between the thumb and finger. The whole should then be poured into a colander to drain off the water, and cold water should be run through it to prevent the tubes from sticking to one another.

For those who like it, garlic makes an enjoyable flavoring for macaroni.

While the following recipes call for macaroni, there are a great many different shapes and sizes which have different names, some of the shapes being shown in the illustration. Some of the names, are: Spaghetti, vermicelli, macaroncelli, rigatoni, ziti, fettuce. The smaller kinds, like vermicelli, and those shaped like seeds, stars, letters, rice, shells, and rings of various small sizes, are best adapted for use in soups. Most of the other kinds could be substituted for the plain macaroni in the recipes.



MACARONI OF DIFFERENT SHAPES

The three long varieties are macaroni, spaghetti, and long ribbons called fettuce. In the farther right-hand corner is a bunch of vermicelli. The large smooth tubes are ziti; the large rough tubes, rigatoni; other kinds are, shells, letters, rice, seeds, and stars.

Macaroni with Cream Sauce

½ cup macaroni
1 quart water
1½ teaspoonfuls salt

Cook the macaroni in the boiling salted water according to the general directions given. Prepare the cream sauce as follows: —

2 cups milk, or part cream
4 tablespoonfuls flour
¾ teaspoonful salt
½ clove garlic, cut fine, if desired

Put the flour into a small bowl, and with a batter whip stir it smooth with three tablespoonfuls of the milk. Heat the remainder of the milk, to which the garlic has been added, to boiling, in a double boiler, then stir the flour mixture into it. Allow it to cook ten minutes. Add the salt. Then stir the cooked macaroni into the sauce. Allow it to stand over the stove long enough to reheat the macaroni.

Macaroni with Egg Sauce

Make this like the macaroni with cream sauce, adding one or two hard-boiled eggs, chopped, to the sauce.

Baked Macaroni with Eggs

Put the cooked macaroni in alternate layers with sliced hard-boiled eggs into a small baking dish, spreading some of the cream sauce over each layer. Sprinkle the top with zwieback crumbs. Bake till it begins to boil up through

Macaroni au Gratin

¾ cup macaroni
1 cup sour cream
¼ clove garlic, cut fine
½ teaspoonful salt
1 egg yolk or one whole egg

Cook the macaroni according to the general directions. Beat together the egg yolk, salt, sour cream, and garlic, and mix it with the macaroni after it is cooked and drained. Put it into a small baking dish. Sprinkle with zwieback crumbs and bake till set.

If a larger quantity is to be made, one egg is sufficient for four times this recipe.

Macaroni au Gratin (with Cottage Cheese)

¾ cup macaroni
½ cup creamy cottage cheese
1 cup milk
1 tablespoonful vegetable oil
1½ teaspoonfuls salt
1 egg
¾ clove of garlic

Cook the macaroni according to the directions. Stir the cottage cheese smooth with the milk. Break the egg into a bowl. Beat the egg with a batter whip, then beat the oil into it drop by drop, so as to make an emulsion of the oil. Then stir into it the milk-and-cheese mixture, the salt, and the garlic. Now mix this with the cooked and drained macaroni. Pour it into a baking dish. Sprinkle with crumbs, and bake till set.

Spaghetti with Tomato Sauce

½ cup spaghetti
1 pint canned tomatoes
1 small onion, sliced
2 tablespoonfuls vegetable oil
2½ tablespoonfuls flour
1 teaspoonful salt
½ teaspoonful thyme
½ clove garlic
½ bay leaf

Cook the macaroni according to directions. Simmer the tomato, onion, garlic, bay leaf, and oil together for half an hour. Stir the flour smooth with a little cold water, and stir it into the boiling sauce. Allow it to boil five minutes. Rub the sauce through a fine strainer. Add the salt and thyme. If the tomato has boiled away enough to make the sauce too thick, add water to make the sauce of th proper consistency. When the macaroni is cooked and drained, stir it into the tomato sauce and heat the macaroni and sauce together.

Saged Macaroni

½ cup macaroni
2 tablespoonfuls nut butter
2 cups hot water
2½ tablespoonfuls flour
¾ teaspoonful salt
1 to 1½ teaspoonfuls sage

Cook the macaroni according to directions. Put the nut butter into a small saucepan. With a batter whip stir a little of the hot water into it and stir till it is smooth, then stir in a little more hot water and stir till smooth. Continue stirring in water till all the water is stirred in and the whole is perfectly smooth. Put it on the stove and heat to boiling, watching it carefully, because it is very likely to boil over as soon as it begins to boil. Stir the flour smooth with two tablespoonfuls cold water, and stir it into the sauce as soon as it begins to boil. Allow it to cook slowly for five minutes. Add the salt and sage. When the macaroni is cooked and drained, stir it into the sauce and heat together.

Macaroni Baked with Olives

¾ cup macaroni
1½ cups water
½ cup tomatoes
1 tablespoonful oil
1 bay leaf
¼ teaspoonful thyme
1 small onion, cut fine
1 tablespoonful browned flour
1 teaspoonful salt
2 tablespoonfuls white flour
½ cup sliced olives

To make the browned flour, sift one pint of flour into a baking pan. Set it into the oven, and stir it frequently until it is of a dark-brown color, about the shade of the shell of a chestnut. Sift this browned flour, put it into a glass jar, and keep it for use as needed.

Cook the macaroni according to the directions.

Cook together the water, oil, bay leaf, onion, and browned flour for one-half hour. Then stir the white flour smooth with two tablespoonfuls of cold water, and stir it into the sauce. Let it cook five minutes. Then rub the sauce through a strainer fine enough to remove the tomato seeds. Add the salt, thyme, and olives. When the macaroni is cooked and drained, stir it into this sauce. Put all into a baking pan, sprinkle with crumbs, and bake till well heated through.

Macaroni with Nut Tomato Gravy

½ cup macaroni
½ cup strained tomato
1¾ cups water
2 tablespoonfuls nut butter
2 tablespoonfuls flour
¾ teaspoonfuls salt

Put the nut butter into a saucepan, and with a batter whip stir the water into it, adding the water a little at a time and stirring it smooth as the water is added. Then stir in the strained tomato. Heat it to boiling. Stir the flour smooth with two tablespoonfuls cold water, and stir it into the boiling sauce. Simmer five minutes. Add the salt. Stir the cooked and drained macaroni into the sauce, and reheat.

EDITORIAL

HEALTH A FUNCTION OF THE MIND

LET no one be misled by the title. This article does not advocate any Christian Science or New Thought ideas, and it is to be hoped that its statements will be so clear that every reader will understand.

What we call physical perfection is only relative. An absolutely perfect being, physically, mentally, or morally, does not exist on this planet. We call something perfect, because we have no more perfect standard with which to compare it.

The most gifted person, the most versatile person in all the world, is imperfect, in many, many ways, even with our imperfect standard of perfection.

Compared with a Wagner or a Beethoven or a Mozart, most persons are imbeciles in music; and those who have a genius for music lack in other directions. Blind Tom, a musical prodigy who could reproduce anything on the piano after one hearing, was underwitted and very deficient in nearly everything but music.

Here is a man with a wonderful gift for art. He can do almost anything with pencil or brush, and his productions are the delight of thousands; yet he scarcely knows one note from another, and has no taste for music.

Darwin, one of the world's greatest observers in the line of biological phenomena, found himself very deficient in music, poetry, and art.

A cultured man from one of our universities, hearing the "call of the wild," goes out from civilization to sojourn for a time with savage men. Perhaps he thinks them his inferiors at first, but he soon learns that in many ways they are his superiors. He finds to his chagrin that they can see distinctly and describe objects in the distance which are completely beyond his perception.

The reader may think that he has a well-developed sense of touch. If so, let him go to the reading-room for the blind in the Library of Congress, and note how deftly those unfortunates read the raised letters of those queer books. If this is not convincing, let him attempt to make out some of the letters by the sense of touch.

Some day, as you hold converse with a stranger, you note that as you talk, he carefully observes your lips. You are surprised to learn afterward that he is absolutely deaf, and that he has learned to tell accurately what is said by observing the motions of the lips, and has learned to talk by studying the motions of the vocal organs in others. It would seem that there is no handicap that may not be overcome if it is attacked in the right spirit.

The deprivation of one sense seems to make it possible, in compensation, to develop other senses to a high state of perfection. But that this highest is only relative is shown by the fact that some of the lower animals far excel man in some of the senses.

The most keen-scented person, civilized or savage, does not have a sense of smell that will compare with that of the dog,— any dog,— which, trotting along

with nose to the ground, is able to track an animal or a person for miles.

Let us, then, realize that the best we may have in talent or in sense is only relatively perfect.

So, with regard to digestion, circulation, excretion, and other functions of the body. At best they are only approximations to an ideal, with a capacity to run for a few decades, and beginning to show depreciation, through the action of microorganisms or because of indiscretions, soon after they begin work. We all vary in greater or less degree from a condition of ideal perfection. Some persons lack more on this point, others on that.

Now, as it happens, one of the variations from the ideal — and a very important one it is — is the tendency to dwell on these infirmities, to feel dissatisfied and uncomfortable on account of imperfections, rather than to recognize and to develop those characteristics that are stronger.

Nature has scattered her gifts variously, but she has not left any person not an imbecile without the power to cultivate some gift that the world wants. But if the man with one talent buries it because he does not have two or five talents, he must bear the penalty of a useless and misspent life.

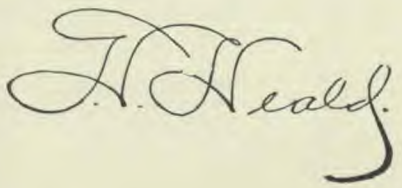
If the many persons who go through life with a feeling of rebellion or else of apathy and inaction, because of some handicap in health or in capacity, could witness the cheerfulness and courage with which some more severely handicapped person — Helen Keller for instance — has won the battles of life, they might feel ashamed of their negative attitude.

A courageous spirit will more than counterbalance any handicap which nature or heredity or bad habits have settled on an individual. And especially if this courage is accompanied by a firm trust and reliance on God, and a determination in his strength to succeed, will the life bear a rich fruitage.

Though one may be suffering from some incurable disease or from some disability that no operation can remove, this magnificent spirit of courage and trust in God will bring contentment, and will develop a life full of beauty — beauty of the spirit — that will be an inspiration to others; and this very spirit of courage will bring a certain amount of health to the body that no amount of medical treatment would accomplish.

Such a life of cheerfulness and courage under handicap, combined with determination to do the best under the circumstances, is a great moral victory, and doubtless will be accounted a greater success on the eternal records than that of the victorious general who has taken a city or conquered a nation.

But cheerfulness under misfortune does not mean a disposition to permit removable disabilities to remain. By culture the unfortunately handicapped person may improve physically, mentally, and morally; and one is not successful who is so content with his present lot that he is making no attempt to improve himself.



INFECTIOUS DISEASES

Infantile Paralysis Epidemic in New York and Elsewhere

INFANTILE paralysis is usually more prevalent in the summer, but the present epidemic is unusually severe, and is causing much concern to health officials. Unfortunately, very little is known regarding the cause of the disease, notwithstanding the fact that serious study has been given to it for a number of years by distinguished bacteriologists.

Not so long ago some investigators supposed they had proved the transmission of the disease by means of the biting stable fly. At present there is a tendency to attach little weight to this possibility, and give more attention to direct transmission from one patient to another, for the reason that it has been found possible to transmit the disease to animals by inoculating them with secretion from the nasal passages of patients. It is remarkable, however, that there is rarely a case where direct transmission can be shown from one patient to another.

Owing to the fact that little is known regarding the means of transmission, it is important to control as far as possible every avenue of infection. Before we knew that yellow fever is transmitted only by certain mosquitoes, various methods of control were used, which have since been found to be useless. So in this disease some of the measures now in use may be found to have been worthless; but until more is known regarding the nature of the transmitting agent, it is important not to overlook any agency that might possibly play a part in the propagation of the disease.

In New York an effort is made to prevent the assembling of children. The children doubtless find it hard to be shut out of the moving picture shows, but for the present such measures of restriction are properly enforced, though it may be found later that the transmitting agent is something which is not now suspected. Parents are instructed to keep children out of crowds and away from other children as much as possible. As it is not known that the house fly is not a transmitting agent, parents are urged to keep flies out of the house, and especially out of the food.

The U. S. Public Health Service has sent a corps of workers to New York to cooperate with the local health authorities, and it is to be hoped that important discoveries will be made regarding the nature of the disease and the means of its transmission, and that some important improvements will be made in preventive and treatment methods.

We know nothing regarding the actual cause of the disease, except that if it is an organism, it is so minute that it can pass through the filters which retain ordinary disease germs, and is too small to be seen with the highest power of the microscope. A few of our most common infectious diseases seem to be caused by organisms of this class, sometimes spoken of as ultramicroscopic organisms or as filtrable viruses.

Poverty and Tuberculosis! Tuberculosis and Poverty!

THE city of Cincinnati, realizing that her tuberculosis death rate was fifty per cent above the average,[1] and that it had failed to manifest a tendency to decline, determined to learn why, with an efficient health department and favorable climatic influences, her mortality from that disease was twice that of her neighbor, Pittsburgh. Accordingly, the United States Public Health Service was requested to make a thorough study of the situation and submit a report. Nearly twenty thousand workers in one hundred and fifty-four factories of the city voluntarily submitted to a physical examination.

The conclusions reached point directly to the close connection between poverty and tuberculosis. One sixth of all tuberculosis cases came from cheap lodging houses. Alcoholism was a prominent cause, and often accelerated the course of the disease. Occupational hazards and bad working conditions were apparently responsible for about twenty per cent of the cases, but in the majority of instances these hazards were not necessarily inherent in the occupation. Previous tuberculosis in the family occurred in practically a third of all the cases investigated. Dissipation, overcrowding, bad housing, and innate lack of personal responsibility were also listed as causes.

[1] The tenement house district of Cincinnati yields a tuberculosis morbidity just three times as great as that of the areas where better housing prevails. In one hundred and ninety-seven families in which tuberculosis existed, the average monthly income for a family of four was approximately $57. After paying the prorata share for food and rent, $5.13 remained for each individual to meet all other expenses. Such a low subsistence level works like black magic in the spread of tuberculosis.

How Tuberculosis is Transmitted; Summary of Most Recent Teaching

IN the February 12 issue of the *Journal A. M. A.* is an article on tuberculosis by an authority of international reputation.[1] The conclusions of his paper given herewith may be accepted as the summary in brief of the most advanced views regarding tuberculosis: —

"1. The evidence at hand indicates that in the majority of cases the respiratory tract is the route of infection in tuberculosis.

"2. The alimentary tract is a frequent portal of entry for the tuberculosis bacillus.

"3. The tuberculosis bacillus is able to pass through the intact mucous membrane of the alimentary tract without producing a lesion at the point of entrance. This takes place most readily during the digestion of fats.

"4. The bacilli pass with the chyle through the lacteals and thoracic duct into the blood, which conveys them to the lungs, where they are retained largely by the filtering action of the tissues.

"5. Infiltration through the alimentary tract is especially frequent in children.

"6. Infancy and childhood are preeminently the periods of life when the individual is susceptible to tuberculous infection, and the majority of cases of infection occur during the early years.

"7. Any campaign against tuberculosis which leaves out of consideration the protection of children against infection will fail of success.

"8. Tuberculous infection in adult life occurs, but not so frequently or readily as generally believed.

"9. Tuberculous infection may occur at any age."

This is a conservative statement, and may be accepted as the opinion of most tuberculosis specialists. It means that the way to stamp out tuberculosis is to prevent the infection of children, by either the discharges of tuberculous patients or the milk and butter of tuberculous animals.

[1] "Present Views in Respect to Modes and Periods of Infection in Tuberculosis," by Mazyck P. Ravenel, M. D.

DRUGS AND MEDICAL FRAUDS

The Love of Money is the Root of All Evil

WHAT the lust for unearned money will not cause a man to do, it would be hard to predict. If a man's palm itches for the dollar that is not his,— that is, if he is covetous,— there seems to be no degree of meanness to which he will not stoop in order to accomplish his ends. The illustrations are numerous, the so-

called "cures" for incurable diseases, bolstered up with extravagant claims and lying testimonials, which filch from the poor invalid and his wretched family the scant funds needed for food and other comforts, is one very common example.

What will a harassed family not do for a loved one who is near the doors of death? And when some flaming advertisement tells how a certain remedy has cured others similarly afflicted, and how it is sure to cure any one having this condition,—money back if it does not [!],—the family takes heart, pawns or sells some furniture or goes without food in order to purchase a supply of the medicine, which may be merely a little sugar and water, or some herbs steeped in poor whisky. And when that supply is gone, another sacrifice is made in order to continue the treatment. The first lot did not have much effect, but perhaps it is too soon to expect a change. And so, little by little, the belongings of that poor family are drained in the hope of bringing the sufferer back to health.

Meantime the promoter of the vile compound has his palatial residence, rides in his automobile, and is perhaps counted a "good citizen" in his community, because he brings business to the town! Any city that tolerates such a fraud is a partaker of the fraud.

The knowledge of a recent example of what men will do for money comes to us from Russia, though, if the story is true, the disgrace is on America. It is another case of the Yankee selling "wooden nutmegs."

A purchasing agent for the Russian government has informed the district attorney of the State of New York that a consignment of eight hundred pounds of aspirin sent from New York to Russia proved to be sugar of milk.

The seriousness of this was not alone in the difference in value of the two products, which was considerable, but in the fact that when they were in need of aspirin for the treatment of certain disorders in the army, they found to their dismay that the supposed "aspirin" was useless for their purposes. It was another substance masquerading under the name of aspirin. It is to be hoped that the firm guilty of such a fraud can be adequately punished.

The Fallibility of Drug Therapy in the Textbooks

IN an editorial article discussing progress in drug therapy, the *Journal A. M. A.*, May 27, 1916, says:—

"An important lesson, incidentally learned through this scientific investigation, is the fallibility of the drug therapy described in textbooks. The explanation is, of course, that many of these textbooks are mere compilations containing false statements, unproved theories, and unverified clinical evidence representing the guesswork of ancient uncritical observers.

"Many drugs have been, and still are, vaunted in textbooks as valuable in a variety of conditions, whereas scientific investigation and controlled clinical observation have proved them to be totally worthless; others are proving to be of value in an extremely limited number of conditions. The sooner writers of textbooks realize this fact and enter into the spirit of the new era, the better for the public and for scientific medicine."

Meanwhile physicians and medical college faculties are learning that there are nondrug procedures that are valuable in the relief and cure of disease. The tendency of the profession is to rely more and more on nondrug methods.

Legal Tautology; Is It Necessary?

THE following is a shining example of the length to which a legal mind can spin out a simple proposition into a formidable array of words:—

"Adulteration of the article was alleged in the libel for the reason that a substance, to wit, acetanilide, had been mixed and packed with the article of food aforesaid, when it was so shipped as aforesaid, so as to reduce and lower and injuriously affect its quality and strength; and for the further reason that a substance, to wit, acetanilide, had been substituted in part for the article of food; and for the further reason that a substance, to wit, acetanilide, had been substituted wholly for the article of food aforesaid; for the further reason that the article of food contained an added poisonous ingredient, to wit, acetanilide, which might render such article injurious to health; and for the further reason that the article of food contained an

added deleterious ingredient, to wit, acentanilide, which might render such article injurious to health."

Is there any defense for such endless repetition other than that some lawyers are paid so much per, for preparing these cases — the more words the more pay? If it could all come out of the pocket of the men who perpetrate the food and drug frauds, it might be excusable; but there is a strong suspicion that the government pays a lot more than the violaters of the law for these prosecutions. The fines imposed are often so nominal that they must provoke a smile on the part of those who are making big money by such frauds. It would seem that the handling of these matters should be administrative, the concern accused having the right of appeal through the courts in case he objects to the penalty.

* * *

THE LIQUOR PROBLEM

"Figures Never Lie, but Liars Will Figure"

THE publicity department of the National Wholesale Liquor Dealers Association of America issues an "Anti-Prohibition Manual," the name of which indicates its purpose. It contains some facts, and shall I say near facts?

Running casually over the pages of the manual, my attention was arrested by an item entitled "Illiteracy," which gives the percentage of illiterate persons ten years old, or over, in eight dry and eight wet States, taken, it is stated, from the United States Statistical Abstract for 1914, page 61. These statistics follow: —

Prohibition States	Per cent of Illiterate Population
Georgia	20.7
Kansas	2.2
Maine	4.1
Mississippi	22.4
North Carolina	18.5
Oklahoma	5.6
Tennessee	13.6
West Virginia	8.3
Average per cent of 8 dry States	11.9

License States	Per Cent of Illiterate Population
California	3.7
Illinois	3.7
Indiana	3.1
Minnesota	3.0
Nebraska	1.9
Ohio	3.2
Vermont	3.7
Wisconsin	3.2
Average per cent of 8 wet States	3.1

Following these statistics is a note giving the illiteracy percentage of others of the wet States: —

"Connecticut, 6.0; Massachusetts, 52; Missouri, 4.3; Montana, 4.8; Nevada, 6.7; New Hampshire, 4.6; New Jersey, 5.6; New York, 5.5; Pennsylvania, 5.9; South Dakota, 2.9."

The manual, which was "specifically prepared as a handy reference book for the editorial, city, or telegraph desk, showing wet and dry territory and latest United States and State statistics regarding conditions and revenues under license, regulation, and control versus prohibition," makes no comment on the figures. But why the comparison of these particular States? Is it intended to lead to the inference that there is some causal connection between the prohibition of liquor and the high percentage of illiteracy?

Is it the purpose of the compilers to intimate that the illiteracy developed after, or as a result of, the prohibition enactments? Or is it their design to suggest the thought that it is communities with a low standard of education that pass prohibition laws?

Perhaps every one knows that it is the colored populations in the South that have the very high percentages of illiteracy, and it is precisely the illiterates of these States who have no vote. The one way in which a high rate of illiteracy might influence a vote for prohibition is the menace of the drunken black and the necessity of keeping liquor

away from a very numerous and comparatively irresponsible class.

With these thoughts in mind, I observed a peculiarity of the comparative statistics given in this manual. The comparisons are always selective. A comparison is made of eight prohibition States with eight license States as to saving deposits; of nine prohibition States with nine license States to show the number of divorces; of nine prohibition States and nine license States to show labor conditions; of three prohibition States and three license States to show church membership, and so on with "paupers per 100,000 population," "prisoners per 100,000 population," and "insanity per 100,000 population."

Such a method of comparison looks fair, does it not? But do the compilers take the same States each time? — No, they make a selection of such States as best show what they want to show. For one comparison they use certain States; for another comparison, certain other States.

The fact is that in all these particulars there is a great difference in the different States, and was before there were any prohibitory laws. To select from the numerous wet States some that make a better showing than some of the dry States is easy enough if one chooses a different series of States to prove each point.

It would look a little more like an attempt to be fair to give the average of all the prohibitory States as compared with the average of all the license States, instead of making a selection of a few. But even this method would not necessarily prove anything.

Any intelligent person knows that the black States are not illiterate because of prohibition, and to make use of any such argument is an insult to his intelligence. But then the liquor forces need everything that looks like an argument.

It is said that "figures never lie, but liars will figure." Figures and statistics afford the unfair person an opportunity to tell half truths that convey an entirely false impression.

Candy as a Booze Cure, Testimony of a Medical Editor

WE expect the *Confectioner's Journal* to say good things about candy — that is its business; but we are apt to suspect that there is chance for a personal bias. It is therefore interesting occasionally to have the opinion of a man who is probably not financially interested in the sale of confections, and who is in a position to speak with authority regarding the effects of sweets on the body. The editor of the *Medical World,* after quoting from the above-named journal regarding the value of candy as a preventive of alcoholic craving, proceeds:—

"If any man doubts that candy will cure him of the drink habit, he can easily test it. The man who puts lots of molasses on his wheat cakes at breakfast will find himself gradually forgetting to stop in for his customary drink on his way to his work. If the man who 'goes out' between times for liquid refreshments will go in a candy store instead, and get five or ten cents' worth of candy, and eat it, he will be surprised at the effect, for it will not be very long until he will have a box of candy in his pocket or desk.

"It has often been noted that, in theaters where candy is sold during the intermissions, 'going out to see a man' does not prevail to anything like the extent it does in other theaters where no candy selling is permitted. Not one man in a hundred knows why he forgot to 'go out and see a man' after he had bought a box of candy for his companion, and eaten a little of it himself for politeness' sake."

Mr. Editor believes the liquor men long ago discovered this effect of sweets:

"It is a significant fact that the free lunch counters run in connection with bars furnish every imaginable thing but sweets. Even the restaurants and lunch grills attached to saloons or bars often refuse to serve desserts of any kind. The proprietors know their business. The more sugar and sweets a man takes at a meal, the less alcohol he wants. Conversely, nearly every drinking man will tell you that he has lost his taste for sweets. The more candy a nation consumes, the less alcohol it imbibes."

This being the case, it is significant that in prohibition States where saloons are closed out, candy stores often take their place, and not infrequently the former saloon keeper runs the candy store. As the supply of liquor is cut off, the demand for sweets increases. However, it is hard to reconcile this with the fact that the per capita con-

sumption of both sugar and alcohol has been increasing at a marvelous rate in this country.

The advice from the editor of the *Medical World* to his fellow practitioners is: —

"Let us persuade all our alcoholic patients and those inclined to be alcoholic to eat candy instead of imbibing alcohol, and cultivate a taste for confectionery and thereby lose the taste for alcohol."

Undoubtedly candy and all sugars have a high food value. They furnish energy to the body in a form that is almost immediately utilized. The military authorities of Europe have acted in accordance with this knowledge, in sending liberal supplies of sweets to the front.

But sweets may be used unwisely. An excess may be exceedingly harmful. In some cases an overdose of candy has caused death. Candy eaten in excess of the power of the body to burn it up cannot but do harm; and in many cases of gastrointestinal fermentation, sweets should be avoided.

❦ ❦ ❦

FOOD AND DIETETICS

Health Department Gives Instruction How to Feed the Family

In response to inquiries as to the minimum cost of food for a family, the department of health of the city of New York furnished the following list of food to last one week. This food, which supplies 430 grams of protein and 9,500 calories a day, is said to be ample for a family consisting of two adults and three children: —

1 pound butter	$ .42
1 bag sugar (3½ pounds)	.24
1 pound rice	.08
1 pound dried peas	.09
1 pound beans	.09
1 pound farina	.06
1 pound oatmeal	.05
1 box cocoa (¼ pound)	.10
1 pound prunes	.15
1 pound onions	.04
6 pounds potatoes	.22
1 head of cabbage (medium size)	.05
1 pound cheese	.22
2 dozen eggs	.60
2 pounds meat daily at 20 cents	2.80
2 loaves of bread daily at 8 cents	1.12
2 quarts milk daily at 7 cents	.98
Total	$7.31

It will be noted that the most expensive item is the meat,— fourteen pounds, $2.80. Now it is a fact that many families not under an economical pressure to live on a dollar a day for food for a family of five, use no meat, and thrive on the dietary. There are other proteins less costly than meat; moreover, it is an open question whether a family of five requires 430 grams of protein a day, provided the proteins are properly selected. But let us suppose that, owing to the fact that the proteins are of vegetable origin, in order to keep fit each one of the family will require the amount of protein provided in this list, nearly 90 grams a day. This can be secured by means of more legumes and cheese, with an increase in the quantity of milk, at a lower cost than the meat ration.

Response of Stomach to Hot and Cold Drinks

Extensive X-ray studies seem to prove that the stomach reacts the same to fluids of different temperatures. There is a difference in individuals as to the rate of emptying the stomach; but in the case of any one individual the stomach will empty itself of hot water or cold water at practically the same rate. Various temperatures from near the freezing to near the scalding point were tried. In a few instances cold water was passed into the intestine more rapidly than hot water.

OUR WORK AND WORKERS

THE REGENERATION OF A TRAMP

L. A. HANSEN

WE will call him Harry. That is not his name, but as he may see this article he must not be put to embarrassment by seeing his real name standing out in print. When he came to our gospel-medical mission, he was practically a tramp. He had all the marks of a common vagabond, and nothing to indicate him as one of education and culture. There was nothing to make us believe he might be a man of unusual talent, gone wrong through unfortunate circumstances, and giving promise of redemption into a man of power and influence. Indeed, we never realized anything of the kind from him.

There was something about the mission that attracted him. It might have been the restfulness of the place, for, though it was located in a part of the city where vice rioted and where little order prevailed, there was a quiet about our place that invited the wanderer and the vagrant. The newly papered walls of the gospel meeting-room, with the bright mottoes and the well-filled reading table, stopped more than one wastrel in his migratory rambling, and halted him long enough to find a true resting place.

Well, Harry stopped to hear our singing, then stayed to listen to the short gospel talk, and then lingered with the few that remained for a short after-talk. He was a backward sort of fellow, quite unprepossessing, with a general sickly appearance. His eyes could not look one squarely in the face, but had a kind of hangdog slant. He was not going anywhere in particular, had no place to call home, so we took him in.

Our associations with Harry were altogether one-sided as to benefits. He needed everything, and had practically nothing to give. Bad habits seemed to be his chief possessions, and ours was a harder lot for trying to get him rid of them. We had a chance to develop patience in our repeated and renewed efforts to help him out of tobacco using, tippling, and other vices that had undermined his health. But in spite of all, he remained, and submitted himself to our persevering labors.

There was probably nothing out of the usual in our experience with this young man. The object in telling it is not to recount something remarkable. A recital of the common may not be very interesting, but it has wider application. Harry was a common sinner, and his experience was that of many. There were good resolutions made that proved about as successful in pulling him out of his pit of trouble as so many ropes of sand. There were ups and there were downs.

I remember that after he had been with us for some time and was showing evidence of gain, I gave him employment in our health food store and treatment-rooms. Besides doing general work about the place, he once in a while waited on customers. One day we caught him in the cash register when no customer was around. He confessed to having taken several small sums of money from it. We did not turn him adrift, and our leniency evidently helped to win the battle for him. Some time later he told of having stolen other things from us, and acknowledged that our kindness had overcome him.

A compassionate and long-suffering Jesus finally brought Harry to a full surrender of his will. A change in his living habits helped to clear up his mind and brighten his wits. Some treatments gave him better physical strength and stronger nerve. He straightened up in

bearing, could look one straight in the eye, and righted himself generally. He was the first man I baptized, and I did not do it until we were sure he was ready for it.

This was fifteen or more years ago. Not long since I met Harry in a distant State. He was a missionary colporteur and was holding true. I felt glad that we had stood by him when he was unable to control himself. He was worth more than a world—a soul over whose conversion the angels of heaven sang with joy.

There is nothing attractive in the ways of the common, weakling sinner. It is no pleasure to be constantly taxed in one's own strength and ingenuity to keep him upright. But he represents the whole of mankind in its relation to a merciful God and a pitying Saviour from whom we must unworthily receive constant help. It is the final salvation of the soul that gives joy and makes the outlay more than worth while.

WHAT THE GOSPEL DOES IN CARING FOR THE SICK

MRS. D. C. BABCOCK

AS in all other pagan countries, the heathen of the Yoruba region in Nigeria have their native doctors, counteracting the good which they might receive from the English doctors whom the government has stationed at their different headquarters all through the interior.

Here in Shao we find ourselves busy caring for the sick children and many grown people. The parents have learned that our simple treatments do their children much good, and that makes them very friendly to us. Frequently the farmers fall on stones and get badly cut. They either come to us or send for us. Some days ago my husband was called out about eight o'clock at night to attend such a case. He said it was the worst cut he had ever seen. It was just above the knee. It was necessary to use splints. Some native Guinea corn stalks answered the purpose quite well.

Some time ago I gave a woman some simple treatments. Today she is a believer desiring baptism, and is learning to read. Thus we see what effect such treatments have in drawing people to the gospel.

They have the greatest confidence in quinine for their babies, and after administering one or two doses, the mother gets down on her knees, and says, "*Ko gbona mo*" (It is not hot any more).

Quite often we see little ones of three or four months with one end of a cord tied around one arm, and the other end tied around the other arm, while the cord hangs loosely on the back. Just about the center of this cord is attached a leather bag containing "medicine." I have asked some mothers the reason of this. They all tell the same story. Of the many children they have had, this is the only one to live, and this "medicine" keeps it alive. Such children are called *joko* (literal translation, "Sit down,"—a crude way of saying, "This child must remain with us"). It gives me a good chance to present the power of God which is able to save their children.

There is much that can be done by competent nurses in house-to-house labor. Every Sabbath afternoon the people flock to hear the gospel, which is winning its way into their hearts; but, as in civilized countries, they are ashamed to break loose from their present habits and associations. Remember this people and the workers continually.

A PHYSICIAN'S ESTIMATE OF TOBACCO

A. D. BUSH, M. D.

The following vigorous condemnation of tobacco, written by a physician to his fellow physicians, which appeared in the *New York Medical Journal* of June 3, 1916, is worthy of careful consideration not only by physicians, but by laymen who are inclined to believe that the use of tobacco is not injuring them: —

ALTHOUGH tobacco is no longer accepted as a medicine, fortunately, its wide adoption among possible patients, and its extended and indefensible use as a narcotic by many sufficiently reflective physicians, make some comment on the plant and its use a serious duty. Accumulating data by careful investigators show that tobacco smoking is a hygienic as well as a social problem, demanding urgent attention from all who value prophylaxis. A brief résumé of the known and easily demonstrable pharmacodynamics of tobacco, as manifested during and after smoking, may be stated as follows: —

Tobacco depresses the higher centers of the central nervous system, especially those of imagery, perception, and association; it first irritates and then depresses the lower centers and the cord. The actual ability of the voluntary muscles is greatly reduced by tobacco, as earlier shown clinically by Seaver and later experimentally by Lombard. Varying considerably with different individuals, the heart gradually manifests irregularities of action which may be either centric or local in origin. Continued use frequently brings on irritation of the optic nerve with more or less amblyopia. The secretory and alimentary glands are first irritatively stimulated, but later depressed. There is an obscure, but presumably toxic interference with metabolism, especially in youth. Absorption takes place readily from the mucosa; elimination is carried on through the kidneys, lungs, and sweat glands.

Before major tolerance has been acquired, tobacco smoking usually produces all the major symptoms of acute poisoning, — altered vision, muscular weakness, nausea, severe vomiting, and great prostration. When a user of tobacco has become so habituated as to escape acute effects, chronic manifestations slowly supervene,— impaired sense of taste and smell; disagreeable emanations from lungs, mouth, and skin; mucorrhea and dyspepsia; cardiac palpitations, visual disturbance, muscle incoordination; weakening of the moral fiber, relative enfeeblement of the will, diminished sense of personal responsibility and social obligation; lowered mental efficiency.

The tobacco user may hotly deny his individual inclusion in the foregoing symptom complex; but in any smoker all these symptoms, in varying intensities, are readily demonstrable at some period of his enslavement; a fact which may well give serious pause to the thoughtful mind. Unhappily the user of tobacco is not unlike the alcoholic in being approximately unable to apprehend his true situation; and we frequently find the smoker, when still able to break the habit, either not amenable to scientific demonstration, or willing to accept his narcotic handicap with whatever mental, moral, and physical deterioration may be entailed.

Many observers have testified to the lowered recuperative power shown by tobacco users during acute infectious attacks or following severe injury. Some industrial concerns now take cognizance of the relative efficiency of smokers and

nonsmokers; and more than one insurance company regard the nonsmoker as a preferred risk.

The physician who smokes is unfair to his patients, since both diagnostic acumen and therapeutic discretion are diminished by the smoking of tobacco. (See the *New York Medical Journal*, March 14, 1914.) To sensitive patients the smoking physician is an esthetic abomination, especially if he is a cigarette fiend, because of the rank, persistent tobacco-smoke odor. He is, moreover, a walking example of a man who wilfully insults his own intelligence, and thereby justly invites a growing lack of confidence in would-be patients.

A vigorous protest against the public smoker as a social nuisance ought to be made in behalf of the nonsmoker. If the user of tobacco persists in wilfully poisoning his own system, he ought at least to be prevented from contaminating the air breathed by others, whether his wife, children, or the general nonsmoking pub- children, or the general nonsmoking public.

Disseminating pyridine vapors in a toxemia of whoever may be occupying the same compartment. Smoking should therefore be prohibited in all closed public places, especially in waiting-rooms, hotel lobbies, and dining-rooms. Railroad corporations should be required invariably to place their smoking-cars at the end of the train, so that tobacco smoke, and the other vile odors common to the average smoking-car, may not be swept by drafts through the other coaches; and the smoking compartment in the sleeping-car ought to be abolished. Surely the comfort and health of all women, children, and the nonsmoking element of the population should take precedence of the selfishness of users of the weed.

YOUNG NAVIGATORS

ITEMS OF INTEREST

Not a Medicine

According to Bulletin No. 5 of the Postal Life Insurance Company, "there is no such thing as 'medicinal whisky.'"

Keeley Cure Home Town Dry

Dwight, Ill., the home of the Keeley cure, supposed to have reformed (at least for the time being) thousands of drunkards, has voted itself dry.

Distilleries to Make Alcohol

Four large Kentucky distilleries are to make alcohol for industrial purposes, instead of making whisky. They expect to export large quantities of alcohol to Europe.

Convicts Produced by Booze

The Protestant chaplain of the Charlestown (Mass.) State prison says that eighty per cent of the inmates of the institution are there as a result of liquor or drug habits.

A Deadly Medicine

According to Dr. William Collier, president of the British Medical Association, "the same care and discrimination should be given to the prescribing of alcohol as to the most deadly drug with which we have to deal."

Liquor Gets No Jobs

No man ever held a job because of his capacity to use liquor, and no man was ever given one because he was fond of John Barleycorn. Workers will have to realize this, and their realization of it will be for their betterment. — *The California Liberator.*

Less Liquor to Patients

The following significant figures come from the Rhode Island Hospital: During 1898-99 an average of 165,168 patients were given liquors to the value of $1,100. During 1915, with twice the number of patients, only $250 worth of alcoholics was used, and this largely for the preparation of specimens.

Russia Will Sacrifice Revenue

Notwithstanding the shortage in revenue owing to the cessation of the government liquor business, there is a determination on the part of many to continue the dry régime. The minister of finance, emphasizing the importance of the improvement made in the people as a result of prohibition, urged that the cessation of the sale of liquor be made permanent.

In Search of Moisture

A Chicago man has applied to the State department for a passport to Brazil. His letter asking for the passport, reads, "I am leaving the United States of America for Rio de Janeiro, Brazil, South America, on account of too much prohibition. I am seeking a position as brew master in the city mentioned above." Say, are we not in danger of losing some of our "best citizens"?

Solid Beer

One of the latest importations from France is a "beer tablet," which is said to "turn a glass of water into foaming beer," and is sold for one cent — beer a cent a glass, as often as you can find the glass of water. It ought to find a ready sale in dry territory.

British Columbia Liquor Law

A bill before the British Columbia Legislature, which if passed will be submitted in a referendum to the voters, is said to be the most drastic legislation against liquor yet proposed by any of the Canadian provinces. The act, if ratified, is to become effective July 1, 1917.

Cigarettes Ruin Mind

Frank Winters, a German by birth, living in Detroit, was committed to the Pontiac Insane Asylum. He had been getting along well until he formed the cigarette habit. This gradually mastered him until he was using one hundred a day. At last he lost his power of application to even simple work.

Crime and Alcohol

In granting probation to offenders, California courts require that the defendant shall, during the probationary period, "absolutely and totally refrain and desist from the use of intoxicating liquors in any form." If this provision could come before the man has committed crime, would it not act as a preventive?

Results of the Antinarcotic Act

According to the *Boston Medical and Surgical Journal*, March 23, 1916, druggists are very generally obeying the law, and the peddling of morphine and cocaine by venders who had purchased the drugs on prescription from irregular practitioners has been very nearly abolished in the neighborhood of Boston, but there are still unprincipled physicians who handle the drugs for addicts. To secure sufficient proof that the law is being evaded in this way to convict the miscreants is by no means easy.

Prohibition in New Brunswick

The province of New Brunswick has recently passed a liquor law which will certainly diminish the amount of drinking. The law, which is to go into effect May 1, 1917, prohibits all barrooms; the keeping of liquor in hotels, clubs, offices, places of business, boarding houses, etc.; liquor advertising in any vehicle or at any public place or upon any sign or billboard; treating and drinking in public places; and also forbids any one under the influence of liquor to have charge of the power or guidance of any automobile, motor cycle, or other motor vehicle. For first offense there is a fine of $50 to $100, or in default, a jail sentence of from three to six months. For a second offense a jail sentence of from six to twelve months, which may be at hard labor, at the discretion of the judge. For subsequent offenses the penalty is hard labor for from nine to twelve months. There are other provisions to make the law more efficient.

CURRENT COMMENT

Natural Allies

JOHN BARLEYCORN and the Captain of the Men of Death are an extraordinarily fit team. French physicians have the saying, Consumption is contracted *sur le zinc*, that is, across the bar; also that alcoholism *fait le lit*, that is, makes the bed of consumption. The physician Lancereaux computes that more than half the cases of tuberculosis among men have been chronic alcoholics; and any interne working in the male wards of any large charity hospital will express the same half-and-half proportion. Physicians declare that consumption is more frequent in heavy drinkers than in people of moderate habits, in the proportion of three to one.

So much for the idea a good many people have that whisky cures, or helps in the cure of, consumption. Pulmonary tuberculosis is almost invariably found in persons who have died in the course of chronic alcoholism; abdominal tuberculosis is pretty sure to accompany hobnail liver. Acute ("galloping") consumption is all the more "hasty" in alcoholics, who must inevitably succumb. The English physician Kelynack has found eighty per cent of consumption in patients that have died of alcoholic neuritis; and Osler's proportion in such cases is eight in eleven.— *The Independent, June 12, 1916.*

Temperance Education a Duty of Health Departments

IT is, as I conceive it, the duty of health departments to teach, teach, teach, persuade, demonstrate, exhibit, exhort, prove that alcohol as a beverage or in patent medicines is a menace to personal and community health, is a common source of sickness and death, is blocking the path of preventive medicine, and is a menace to the physical and social development of the nation.— *Haven Emerson, M. D., Health Commissioner, New York City, in address at the Conference of Charities and Corrections, Indianapolis, Ind., May, 1916.*

Rug Beating

RUGS and mats may not be beaten or shaken in Chicago in any place where dust from them will pass into occupied premises, the reason being, of course, that such dust is frequently laden with disease bacilli. By way of illustration, a tragic tale is related by the health department bulletin of the young mother whose neighbor in the apartment above shook down rugs from a room occupied by a measles case, over her baby's clean clothing on the line. The penalty in this case, if imposed, would have been from $5 to $100.

But if Chicago does not mend its ways, when the baby grows up he will find a strange discrepancy in the management of health affairs. The shaker of dusty rugs is fined. But the city not only does not fine the purveyor of alcoholic disease and death, but lets him operate openly on the streets, and cheerfully drops into its municipal pocket the revenue thus acquired.

Suppose we apply the alcohol argument and see where we come out: Women always have shaken rugs. Not all rugs contain disease germs. Only persons having poor resistance will be affected by the dust. If a mother doesn't want her baby's clothing covered by her neighbor's dust, let her keep it in the house, but let us not deprive the neighbor of her personal liberty.— *Scientific Temperance Journal.*

"LEAD US NOT INTO TEMPTATION"

Questions accompanied by return postage will receive prompt reply by mail.

It should be remembered, however, that it is impossible to diagnose or to treat disease at a distance or by mail. All serious conditions require the care of a physician who can examine the case in person.

Such questions as are considered of general interest will be answered in this column; but as, in any case, reply in this column will be delayed, and as the query may not be considered appropriate for this column, correspondents should always inclose postage for reply.

Nasal Swab

"I understand that there is a preparation which is helpful to use as a nasal swab in case of colds and catarrh in the head. I should be glad to receive the formula for the same."

For a nose that tends to dry and crack, a little plain or carbolated vaseline is useful; or a mixture of glycerin and water, half and half, sprayed into the nostrils will prevent their drying; and a saturated solution of menthol in oil of eucalyptus is an excellent mixture to use in an inhaler; or menthol can be rubbed into the vaseline until it is saturated, and this applied to the nostrils with the finger, for acute cold.

Bulgarian Culture

"Can you tell me what the Bulgarian culture is — whether a fungus from a tree, or whether it is a germ-growing plant or animal? Where was it first found, and by whom introduced into America? Is this culture fit for the use of souring milk, and is this soured milk good for the use of invalids or well persons? I have heard from several persons who are supposed to have received their information from doctors, that it is unfit for human use, and from others that it is an excellent remedy for one suffering from indigestion. What do you think of it?"

Bulgarian culture is a bacillus, or germ, that produces lactic acid in milk. It was discovered in the milk in Bulgaria, where the natives drink large quantities of soured milk.

Metchnikoff, who introduced this germ, is a great bacteriologist who has been for years in charge of the Pasteur laboratories in Paris. He believes that the Bulgarians, who often live to be more than one hundred years old, owe their great age to the fact that they make use of this soured milk. While ordinary sour milk has its advantages, Metchnikoff and others believe that the Bulgarian bacillus is much more effective in counteracting putrefaction in the intestines than the ordinary lactic acid germ.

I believe that buttermilk and Bulgarian milk both serve an excellent purpose in many intestinal troubles, although doubtless Metchnikoff has greatly overestimated their value. He seemed to think that with the use of this germ it would be possible to prolong life almost indefinitely. I frequently suggest to inquirers the use of some form of sour milk.

There is a possibility that some of the cultures produced in this country are not the true Bulgarian bacillus, but common lactic acid cultures.

Ulcer of the Stomach

"Kindly tell me what to do for ulcer of the stomach. Drugs and doctors have done me no good. I have had a hemorrhage occasionally; am using pills, and have two or three stools a day, slimy and sometimes containing evidences of blood."

It would be a fine thing for you to go to the nearest sanitarium and have a careful examination. An ulcer in the stomach is something that may later develop into a cancer, and it is well enough to have it attended to while it is in an early stage. It is not a thing that I could treat by mail.

I think you make a mistake in using cathartics. Such things are apt to be irritating to the condition in your stomach. It would be better for you to make use of one of the mineral oils or of liquid paraffin, or else take a tablespoonful of agar with your meals.

Heart Trouble

"I have heart leakage and enlargement, and have pain most of the time in the region of the heart, mostly the left side. Sometimes the pain runs down to my elbow and to waist line. I am fifty-six years old. I do not take any medicine; use a cold compress sometimes, and take a hot foot bath; am a strict vegetarian, but not an extremist. I am nervous; have a poor stomach; but no constipation. Can you suggest anything helpful?"

If possible, it would be better for you to go to the nearest sanitarium. After an examination and observation for a short time, the doctors could probably give you advice that would be worth a great deal to you regarding the care of yourself at home.

According to some doctors, your poor stomach

is really a symptom of heart trouble. I could not say without knowing more about the case. I should judge from what little I know of your diet that it is about as good as it could be for this condition.

It would be well for you to spend a little more time each day lying down. Take such a rest in the forenoon and another in the afternoon, and spend a good deal of time in bed at night. Be careful about going upstairs or doing any work that involves a strain on the heart.

If possible go to one of our institutions, or to a physician who is conscientious enough to do the right thing for you, and have a careful examination made.

As to Climate

"My health is not good here [Iowa]. The winters are too cold, and I do not get out enough. So we are thinking of going on a farm. I want to know something of the climate of the Ozark country in Arkansas for throat and lung difficulty. My lungs are evidently sound, but have a tendency to bronchial catarrh. Some of my people have had tuberculosis. Do you think it would be safer to go to some place like New Mexico?"

I am not personally acquainted with the climate of the Ozark country. As a general thing the climate farther west is more favorable for the treatment of tuberculosis; but we should not forget this fact,—that tuberculosis is cured in Philadelphia and all the cities of the East simply by proper care and the outdoor life.

If your lungs are sound, there is no reason why you need leave your present place, so far as tuberculosis is concerned. If the climate is such as to cause catarrhal conditions, it may be that a dryer or less changeable climate would be better for you. I think, however, that the important thing, at least in a case of beginning tuberculosis, is the outdoor life.

Eczema

"A friend having what has been called eczema is taking treatment for it by mail. For a time she was benefited, but it is breaking out again. A neighbor tells her he has had the same trouble for fifteen years. Is it possible to cure it? Is there any simple remedy to relieve the itching? Would buttermilk used as a wash and as a diet be beneficial?"

The patient is making a mistake in taking treatment by mail, and you are making a mistake in expecting me to suggest treatment by mail. This trouble might be one of several different conditions, and while she is taking this treatment she may be wasting precious time and the condition be getting where she will be unable to control it. The best method is to go to a competent physician and have a thorough examination.

The trouble her neighbor has may not be the same as hers, and again it may. Whether it is something that can be cured I have no means of knowing without making a personal examination.

In some cases of eczema a strictly vegetarian diet, without even milk, has proved to be of benefit. Regarding the buttermilk wash I can say nothing.

To Reduce Flesh

"Will you please recommend a daily diet or any kind of exercise for reducing flesh?"

There are certain kinds of foods, such as the starches, sugars, and fats, which turn very readily into fats. It is not so much the kind of food you eat, though, as the quantity. In any dietary where it is attempted to reduce weight, there is always the danger of leaving out some necessary ingredient, and thus endangering health. A good rule would be to have a liberal diet so far as variety is concerned, but to limit yourself very severely as to the quantity.

Eat all you desire of such foods as cabbage, spinach, cauliflower, celery, cucumbers, kale, lettuce, radishes, onions, rhubarb, squash, tomatoes, string beans, and turnips that do not furnish much nourishment. Green peas can hardly be included in this list, as they are quite nourishing, but you may eat a limited quantity of these. Limit yourself very strictly regarding bread, butter, cream, and all cereals, nuts, olives, and foods of that kind. Asparagus tips and various forms of salads without oil dressing are permissible. Use skimmed milk preferably to whole milk or cream. Remember that potato is fattening. You should not eat very much of it.

Regarding exercise, there is nothing better than walking. You may find it difficult at first. You should start out with short walks, and gradually increase the distance until you are walking ten miles every day. Keep up these walks, and then when your appetite increases, if you will resist the temptation to eat proportionately, you will be able to reduce your flesh.

The trouble is that with those who have a tendency to be fleshy the temptation is to eat and not to exercise.

Stomach Symptoms

"I have had sour stomach nearly every day for ten years; for five years have been taking bismuth, soda, charcoal, magnesia, etc. Four symptoms: dizziness, smarting at pit of stomach, gas in stomach, and a tired feeling. Everything I eat seems to irritate that sore spot in my stomach. . . . Examinations by physicians have revealed nothing serious."

From your symptoms I cannot help thinking of ulcer and beginning cancer; but I suppose your doctors have all carefully considered this matter.

I notice you state that eggs agree with you, but sour. This I cannot understand, unless you eat the eggs with some carbohydrate. If such a food as eggs sours, it must be because there is a formation of too much hydrochloric acid in your stomach. Have you tried using ripened milk or buttermilk? Have you tried the malted cereals?

J. B. L. Cascade

"Do you recommend the J. B. L. Cascade method of treatment for appendicitis and other reputed kindred ills?"

It is impossible for me to see why the simple enema would not perform all that is expected of this more expensive outfit. For one who has appendicitis to experiment with makeshifts instead of having expert advice, is dangerous.

Diet for Children, with Menus and Recipes

by Louise E. Hogan. Cloth, 75 cents net. The Bobbs-Merrill Company, Indianapolis.

Every one who has the care of children finds out, through experience, that it is absolutely necessary to select carefully the foods that are suitable for their requirements. It is now very generally understood that the old idea of giving children the same food as that of adults is a dangerous one. It is also understood that it has, perhaps, been too frequently the custom among adults to think that anything that is provided for themselves in the way of food might be given with impunity to children, forgetting that the food an adult can receive and assimilate can easily do harm to the tender organs of the child depending so largely for its development on care in this direction.

The purpose of the book is intended to help mothers, under conditions of health as well as of illness, to provide for their children the food that will best minister to their development.

Like most books of the kind, this one advocates the use of flesh foods; but the discerning mother can, aside from this, learn from the book much that is of value.

In the matter of cereals, milk, vegetables, etc., the book gives excellent advice.

Quit Your Worrying!

by George Wharton James. Price, $1 net. The Radiant Life Press, Pasadena, Cal.

Mr. James was once a persistent worrier,—nearly worried himself into the grave, so he tells us in his foreword,—but learned how to overcome this bane of his life. In this book he attempts to set forth the means which he followed to teach himself the delightful lesson of serenity, of freedom from worry, and to suggest a way by which others may obtain the desired end.

Worry, a product of Western civilization, is a sign of mental inadequacy, a proof that the worrier has no living belief in himself, his ideals, or his God.

Reading the book will not drive away the blue demon; but one may obtain from its pages suggestions which, persistently carried out, will enable one to gain the victory.

Habits that Handicap: The Menace of Opium, Alcohol, and Tobacco, and the Remedy,

by Charles B. Towns. Cloth, $1.30, postpaid. The Century Company, New York.

The recent antinarcotic legislation has developed startling facts regarding the prevalence of drug addiction among all classes of people, including physicians.

Mr. Towns, the author, who has been a life-long student of drug habits and their treatment, and is largely responsible for the recent legislative activity, gives to the reader first-hand information regarding the prevalence of the drug habit, the factors in its formation, and the methods of cure.

Mr. Towns warns against the common run of sanatoriums for drug-habit treatment, both here and in Europe, and against a certain class of physicians who, themselves victims of drugs, seem to delight in fastening the habit on others.

The book outlines a practicable and successful method of treatment which has permanently cured large numbers of patients.

Including You and Me

a book of 122 poems, by Strickland Gillilan. Cloth, 191 pages. Price, $1 net. Forbes & Co., Chicago.

As is the case with nearly all books of poems by a single author, this volume contains some really good things, some — well, just passable, and some of little true merit. These poems are largely character or trait sketches, and as is suggested by the title of the book, show that "all the world's akin."

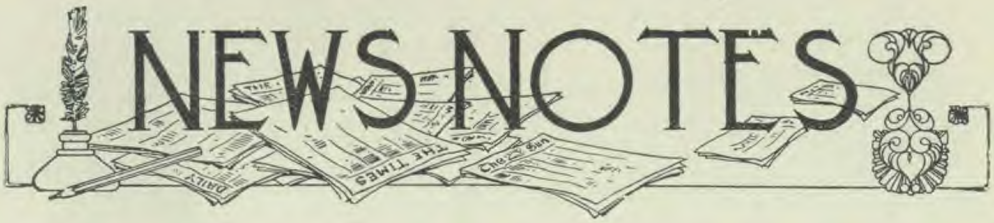
Read with proper discrimination, "Including You and Me" will be found to be helpful; but the subtle poison of "When Satan was Puzzled" (page 79) and "When the Kids are Away" (page 85) goes far to offset the better features of the book. But whatever one's tastes may happen to be, one is pretty sure to find something in the book to please him. On the whole, it isn't bad. C. P. B.

The Why and How of Missions in the Sunday School

by William A. Brown. Cloth, 50 cents net. Fleming H. Revell Company, New York and Chicago.

"The chief reason, doubtless, for the lack of interest in missions," says Marion Lawrance, "is that the membership of the church were not, in their youth, given a missionary vision. It is worthy of note that a very large proportion of the missionaries got their vision in their youth. One generation of boys and girls trained up in the Sunday School with an adequate knowledge of the great onward movements of the church throughout the world and the victories of the cross in heathen lands, would see to it that every available field was fully manned, and that there was money enough to carry on the work as it should be carried on."

It is not possible that any Sunday school or Sabbath school could follow faithfully the outlines laid down in this little book without getting marked results for the Kingdom, both in increase of missionary interest and in increase of donations.



"Scrofula" in Children

Tuberculosis of the lymph nodes in children under five years is the result of bovine infection — which means that it comes from cow's milk — in about thirty-five per cent of the cases, but tuberculosis of the lungs is almost never from milk. This, according to H. M. Biggs, in the *New York Medical Journal*, Jan. 22, 1916.

Control of Secondary Infections

According to R. P. White, in the *British Journal of Tuberculosis*, January, 1916, a patient with pulmonary tuberculosis should be protected from secondary infection, like "colds," bronchitis, or influenza, just as a surgeon avoids secondary infection in a cold abscess. This should be done by keeping away visitors who are suffering from such conditions.

How to Eliminate Appendicitis in Diagnosis

According to Dr. Robert T. Morris, in the *New York Medical Journal*, May 20, 1916, if the right group of sympathetic lumbar ganglia are not hypersensitive on pressure, we may practically rule out the appendix altogether. This may be done in perhaps the larger number of cases which are sent in with the diagnosis of chronic appendicitis, but in which symptoms are dependent upon impulses from various cerebrospinal or sympathetic centers.

The Tonsilloscope

Dr. Thomas R. French, of Brooklyn (*New York Medical Journal*, May 20, 1916), is perfecting a new method of examining tonsils *in situ*, the tonsil being transilluminated by means of a small electric bulb hidden in the folds above, behind, or below the tonsil, and examined by a special tonsil microscope. He claims that by this method a much more accurate judgment regarding the condition of the living tonsil can be obtained than by any other method. He claims to be able to tell if a tonsil is healthy or definitely diseased, but there are border-line cases which are yet uncertain.

Malaria and Hookworm Disease

Dr. W. S. Leathers, of University Mississippi, at the annual meeting of the Southern Medical Association, November, 1915 (*New York Medical Journal*, May 20, 1916), stated that either malaria or hookworm disease so devitalizes the human body that typhoid and tuberculosis have little trouble in completing the destruction. These diseases make other diseases more deadly, and must be stamped out before any noticeable impression can be made on the diseases having a higher degree of mortality. When the people become educated along the lines of protection against the ravages of the insidious diseases, a great step will have been made.

Geographical Names

The food inspection decision that it is allowable to call certain melons "Rocky Ford melons," irrespective of their origin, is a sensible one. The original decision seemed to run counter to the dictionary and make it improper to describe certain nuts as "English walnuts" unless they were actually raised in England. That may be an extreme case, but some of the decisions were as foolish. It is about time that some sense regarding such names filtered into the department.

Treatment of Acute Colds

C. B. Williams (*Texas State Journal of Medicine*, April, 1916) uses hexamethylenamina in every well-defined case of acute cold, acute discharge of the middle ear, acute inflammation of the sinuses, and acute bronchitis. He gives adults fifteen to thirty grains a day for from three to ten days, beginning with an initial dose of ten grains followed by five- or seven-and-one-half-grain doses. He claims satisfactory results. If some of his cases require as much as ten days to get results, it does not seem to be so very satisfactory — from the patients' standpoint.

New Treatment of Smallpox

Teodora Taboada (*Cronica Medica*, March, 1916; *New York Medical Journal*, May 20, 1916) claims to have treated sixty-four cases of smallpox by a new method, with a mortality of only 12.5 per cent, as against a mortality of 21 per cent in one hundred and thirty-four cases treated by older methods. He employs a 10-per-cent solution of camphor and 90 per cent alcohol as a local application several times a day, followed by painting with a mixture of iodine one part and glycerin two parts. Warm baths with lysol solution are given daily. The spirits of camphor acts as a pronounced antiseptic and neutralizes the fetid odor of the disease.

The Density of Bacteria

Hinkleman, director of the Galesburg (Ill.) Laboratory, has made an important suggestion regarding the specific gravity of bacteria, or, as he calls it, the microorganic weight. A series of observations on the results of centrifugalizing milk, and water, containing bacteria, shows that a larger proportion of the pathogenic bacteria, or disease germs, are thrown out by centrifugal force than of the harmless germs. Hence the disease germs are heavier. This suggests the thought that the density of the bacteria may have something to do with the fact that certain of them are more able to resist the defensive action of the body tissues, and are thus enabled to multiply in the body.

Health Insurance

The Massachusetts Legislature has created a commission to study social insurance with special reference to sickness. The State department of health and the bureau of statistics are directed to cooperate with the commission of nine members which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar State commission already at work on this problem, which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York, and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the safety-first campaign which followed workmen's compensation for accidents.

Nutritive Value of Boiled Milk

From a series of experiments on young rats, reported in the *American Journal of Diseases of Children*, the experimenters conclude that "milk heated to the boiling temperature or thereabouts is an inadequate food. Rats fed on boiled milk grew to about half their normal size. . . . Milk kept at the boiling temperature for forty-five minutes is no less efficient as food than milk boiled for much shorter periods — ten minutes or one minute. The chemical changes which make milk an inadequate food are brought about at the boiling temperature or thereabouts. . . . Although boiled milk is an inadequate food for rats, it is apparently better borne than raw or Pasteurized milk, for we have been unable to raise young rats on either exclusively. . . . The advantage of using raw milk for infant feeding is obvious [from these experiments? — ED.]. When babies are unable to digest raw milk, however, or there is danger that the milk may be contaminated, we believe that the pediatrist is justified in using boiled milk."

Pellagra Studies in Nashville

Jobling and Peterson have made a careful study of the pellagra situation in Nashville. Among the possible causes of the disease studied by these men, deficiency of protein and excess of carbohydrate did not seem to be active. The social and economic conditions in the pellagrous districts were equal to those in nonpellagrous districts. The water supply is the same for both. On one point there was an important difference. The pellagrous regions were not sewered, and the majority of pellagrins living in sewered parts of the city had developed the disease in nonsewered regions, or else had been accustomed to visit friends in the nonsewered regions. The sanitary conditions in this region are bad. Open unscreened privies are the rule, and are seldom more than fifty feet from the kitchen, often not more than fifteen or twenty feet. Only two per cent of the kitchens are screened. Another point noted by the observers was that more than three fourths of the patients had been in intimate contact with other pellagrins before they contracted the disease. The installation of sewers in certain areas was followed by a diminution in the number of pellagrins.

Directory of Associated S. D. A. Sanitariums

Comprising a system of affiliated sanitariums operated by an organized health movement of fifty years' existence. Conducted on the same general principles of physiological therapeutics. Utilizing every modern curative measure recognized by science. Directed by properly qualified physicians and surgeons, aided by trained attendants and graduate nurses. With well-equipped operating rooms, treatment rooms, and laboratories. Supplying a liberal dietary of the very best foods. Offering delightful surroundings and agreeable conditions.

Address for full information, descriptive matter, terms, etc., the institution nearest you or suiting your desire in location.

General Headquarters, Medical Department General Conference S. D. A., Takoma Park, Washington, D. C.

Sanitariums in the U. S.

Boulder-Colorado Sanitarium, Boulder, Colorado.

Florida Sanitarium, Orlando, Florida.

Glendale Sanitarium, Glendale, California.

Iowa Sanitarium, Nevada, Iowa.

Kansas Sanitarium, Wichita, Kansas.

Loma Linda Sanitarium, Loma Linda, California.

Madison Sanitarium, Madison, Wisconsin.

Nebraska Sanitarium, College View, Nebraska.

Nebraska Sanitarium, Hastings, Nebraska.

New England Sanitarium, Melrose, Massachusetts.

Oakwood Sanitarium, Huntsville, Alabama. (For colored.)

Paradise Valley Sanitarium, National City, California.

Portland Sanitarium, East 60th and Belmont Sts., Portland, Oregon.

St. Helena Sanitarium, Sanitarium, Napa Co., California.

Tri-City Sanitarium, 1213 15th St., Moline, Illinois.

Wabash Valley Sanitarium, La Fayette, Indiana.

Walla Walla Sanitarium, College Place, Washington.

Washington Sanitarium, Takoma Park Station, Washington, D. C.

Washington Sanitarium Branch, 1713 I St., N. W., Washington, D. C.

Foreign Sanitariums

Adelaide Sanitarium, Barker Road, Nailsworth, Adelaide, South Australia.

Bellair Hydropathic Sanitarium, Bellair, near Durban, Natal, South Africa.

Cape Sanitarium, Plumstead, Cape, South Africa.

Caterham Sanitarium, Surrey Hills Hydro, Caterham Valley, England.

Christchurch Sanitarium, Papanui, Christchurch, New Zealand.

Christiania Health Home, Akersgaden 74, Christiania, Norway.

Friedensau Sanitarium, Friedensau, Post Grabow, Bez. Magdeburg, Germany.

Kimberley Baths, 7 Cheapside, Kimberley, South Africa.

Lake Geneva Sanitarium (Sanatorium du Leman), Gland, Ct. Vaud, Switzerland.

Natal Health Institute, 126 Longmarket St., Pietermaritzburg, Natal, South Africa.

River Plate Sanitarium, Diamante, Entre Rios, Argentina, South America.

Skodsborg Sanatorium, Skodsborg, Denmark.

Stanborough Park Sanitarium, Stanborough Park, Watford, Herts, England.

Sydney Sanitarium, Wahroonga, N. S. W., Australia.

Warburton Sanitarium, Warburton, Victoria, Australia.

St. Helena Sanitarium

Nestled among scenic foothills, on the sunny slopes of Howell Mountain, like some great white jewel, in a setting of wonderful landscape, is one of the most beautiful, and at the same time one of the most scientifically conducted, institutions in all California.

The ST. HELENA SANITARIUM is a refuge, a haven, a veritable Paradise for the sick, the invalid, and those who need rest and recuperation. Its hospitable doors are open to all who are sick, and everywhere is the environment of kindness and good cheer. The sanitarium is the retreat of the cultured and refined, affording the advantages of a thoroughly scientific institution, where Nature, the physicians, and the surgeons work hand in hand for the alleviation of human ills.

Located sixty-five miles north of San Francisco, in a little hamlet all its own, it is so peaceful, so placid, so serene, that it seems as if it were in a world apart. The main building and cottages wholly lack the depressing atmosphere of a hospital.

Apply for beautifully illustrated booklet "E."

Address the

St. Helena Sanitarium
Napa County
Sanitarium, California

Portion of Main Building

Hospital

Lucene Cottage