

# NEW DISCOVERIES



# ALL OVER THE EARTH

## Blame Your THYROID GLAND for POOR TEETH

**M**ORE important than all the dentists and their new fillings and methods is the mystery of why teeth decay. Dr. H. Ewan Waller, an eminent British dental authority, believes that a certain ductless gland in the neck, known as the "thyroid," largely controls the destiny of our chewing apparatus. Of course, nobody doubts that cleaning the mouth, selecting proper food and general care of the health aid in keeping the teeth sound; and lack of these things contributes to their breaking down. But these are not the only causes nor the main ones.

In spite of neglect and ignorance, some people have absolutely no trouble with their teeth, while others brush and clean and yet spend small fortunes with the dentist. "A polished tooth never decays," they say, and this is probably true, but it is equally true that nobody can keep every portion of every tooth polished all the time.

"The lungs and the liver and the heart and other organs are supposed to take care of themselves without one's personal attention," says Dr. Waller. "That is nature's business. If nature does not attend to her

## How A Little Organ in YOUR NECK Makes Your TEETH GOOD or BAD

business we ought not to be perpetually dusting and sweeping and cleaning up after her as if she were a careless housemaid, but should call her to account.

"Good health was early recognized as one of the foundations for good teeth. But many cases of excellent general health show poor teeth, so we must conclude that there are various kinds of good health, some which include the teeth and some which do not. Also many patients of very feeble constitution for some reason have no need of the dentist."

Among all the varying causes of health and disease Dr. Waller finds one constant factor. When there is trouble with the thyroid gland there is trouble with the teeth.

All over the body, in nooks and corners, are found all sorts and sizes of glands. Some of these are well understood, such as those that secrete saliva for the mouth or tears for the eye. These have outlets called "ducts," which empty their products where they are needed. There are also other kinds of glands which have no outlet. These are called the "ductless glands," and whatever they secrete goes right into the blood itself. The thyroid is a blind, ductless gland. It is in the neck and when enlarged causes the disease known as "goitre."

The thyroid does several wonderful things for the body of which we know; and doubtless several others, unknown. The entire process of growth and development of a body into a full grown adult depends on this small body hidden away behind our mouth.

When a baby is born without an adequate thyroid it becomes what is known as a "cretin." The cretin is not likely to be more than four feet tall, probably less. His intellect hardly progresses at all, often remaining so childish that he is absolutely dependent on

others all his life. The cretin lives a dull, vegetable-like existence and takes note of very little that goes on around him.

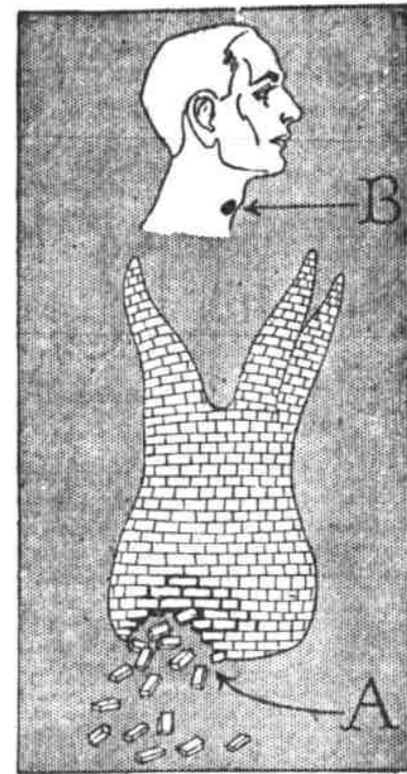
His bones are stunted and feeble, curvature of the spine is common and bow legs exaggerate the short stature of the cretin. In the case of an imbecile of this kind with so many things wrong, it is not surprising that the symptom of bad teeth should be passed by with little interest. Yet decayed teeth are the most invariable symptom of all.

Cretinism can be cured nowadays by treatment with thyroid extract taken from the thyroid glands of animals. This artificial supply gives the system the missing element in building materials and the cretin at once begins to grow and even make up for lost time. If the treatment is begun early enough, the system is able to turn out quite a presentable human being in the end.

Where the artificial thyroid substance is supplied before the permanent teeth appear these arrive strong, full-sized and able to resist the attacks of the microbes and acids of the mouth. If the treatment begins after the permanent teeth have come, they are small, ill-formed and doomed to perpetual decay until they are removed.

In the teeth, the action of the thyroid element is particularly suggestive of mortar. If there is extreme scarcity of this element in the blood the teeth will be stunted and malformed. If the lack is not so great the building of the teeth will go on, but the structure is like a wall built by a stinky mason who has skimped on the quantity or quality of his mortar. The tooth crumbles away at the points nature stunted just as bricks fall out of a poorly-made wall.

But the thyroid gland not only supplies a sort of



A—An Unhealthy Thyroid Gland Makes a Tooth Crumble Away, Just as Poor or Insufficient Mortar Makes the Bricks Fall Out of a Wall B—Location of the Thyroid Gland, Which, According to Dr. Waller, Must Be Healthy if One Is to Have Good Teeth.

mortar for building, but it gives us anti-toxins to fight germ diseases. It is such a faithful, self-sacrificing body that it will wear itself out in defence of the system.

Before the thyroid was discovered it was noticed that an epidemic of typhoid fever in a community was followed by an increase in tuberculosis and other diseases among the convalescents. In the typhoid patients the thyroid gland had exhausted itself in overcoming the disease and was unable to resist the next invasion of tubercular germs. During this period of thyroid prostration the teeth give incessant trouble, but not usually while the system is combating the first disease. Among children's diseases, measles seems to throw the heaviest burden upon the gland and measles is usually followed by a sudden increase in dentists' bills.

The reason that mothers before childbirth usually suffer from their teeth is because, the thyroid secretion in their blood is drawn upon for the growth of the child so that the mother's system, including her teeth, is robbed of its share. Giving thyroid extract to expectant mothers not only prevents decay of their teeth but relieves nausea.

Of course, any person suffering from cretinism to a marked degree, if treated at all, would be given enough thyroid extract to supply the teeth as well as the rest of the system. The persons to be benefited by Dr. Waller's investigations are those who were born with healthy thyroid glands but have exhausted them in fighting diseases. Such persons may stop the ravages of decay in their teeth and avoid more obscure troubles in other parts of the system by putting themselves under thyroid treatment. This should be done, of course, under the direction of a physician.

## BIRDS to Teach Us

### WHEN TO MARRY

**A**T WHAT age does nature intend human beings to marry? This is a question which has received little scientific attention in the past, but the development of eugenics will doubtless soon bring it to the front.

Valuable data on the subject may perhaps be obtained through certain unique research work now being conducted by Professor John B. Watson, head of the department of experimental psychology at Johns Hopkins University. Professor Watson is making a study of wild bird life, paying particular attention to the age at which the feathery creatures mate.

It has been found that the red grouse, partridge and most pheasants produce their young broods the season after the first summer in which they become attired in their full feathery regalia.

Blackbirds and black game generally behave differently. The plumage of the young male is similar to that of the gray female. In December the black garb is complete, but the curved tail feathers do not reach their full growth until the third year, and not until then do these assume the marriage yoke—a flimsy silken skein esteemed by them ever so lightly.

Gulls and wild sea fowl generally do not mate or rear young until childhood's simple feathers are laid aside. The third season seems to be the best time for their mating. The herring gull is even as much as four years old before it enters into the bonds of wedlock. Most of the duck tribe start to mate in their second season and rear young when two years of age.

Ravens, falcons and eagles, particularly golden eagles, and peregrines, do not mate until the second year after they have hatched, and many of them are four years old before they begin to take care of an eyrie.

**I** COMPARE cocoa to a vegetable egg, because, like the egg, it contains everything necessary for the building of the animal body. When we analyze cocoa we find it a perfect natural food. Analysis teaches us that it contains a fair proportion of nitrogenous matter in the shape of gluten, a very large proportion of fat, a considerable amount of starch, so much mineral matter, and, finally, a stimulant of its own called theobromine.

Cocoa is an excellent substitute for tea and coffee, especially to those who are over-stimulated by these beverages. Pure cocoa is easily digested. But be sure that you get it pure. Avoid all such preparations of cocoa in which hops, kola and like substances have been mixed. If you find that one brand of cocoa does not agree with you, try another, until you find the one which is best fitted for your constitution.

Cocoa is the truly American beverage, for it was discovered by the Spaniards when they first landed in Mexico, being there used by the natives in large quantities. Linnaeus appreciated its value, calling its chief alkaloid theobroma (drink of the gods), suggesting by

the name that it was fit for the gods to drink, the real ambrosia of the ancients.

It is native to South America and the land about the Gulf of Mexico. The flowers appear upon the main branches of the plant, one fruit developing from a cluster of flowers. This fruit or pod is from seven to ten inches in length, and contains from twenty to fifty seeds, what we call the cocoa beans. These beans were so highly appreciated by the Mexicans that the Spaniards found them used as currency. In order to secure the beans the pods are opened, and the beans in their fleshy bed are first dried out, then fermented and again dried or cured. In this condition they are shipped all over the world for the manufacture of chocolate and cocoa.

The first process of manufacture is to roast the bean carefully, just to the proper point. Then the beans are crushed, and if chocolate is to be made, the finely ground bean is mixed with water and flavored with vanilla, becoming a paste, which is moulded into the familiar cakes of various sizes in which it is marketed. In fact, the word chocolate is made up of two

Mexican words, choco and lath, cocoa and water, for Mexicans manufactured chocolate in the very same way. They did not, however, have the improved mode used now of extracting the oil under tremendous hydraulic pressure, for this is the method of making the coca used now so widely. This operation makes cocoa far more digestible than chocolate, for the oils make a drink too rich for the digestion of most persons, but cocoa may be digested by any normal system.

The introduction of chocolate in London in 1657 created a great sensation, and it at once became the fashionable drink. In the eighteenth century it was widely used, and the consumption has increased enormously year by year since that time, as men and women learned to appreciate the high nutritive value of cocoa, especially with the oil removed.

The United States consumes more than 26 per cent. of the total production of cocoa, or over sixty tons per annum. Germany consumes almost fifty tons, and France 28,044 tons each year. Great Britain uses over twenty-five tons, so it may be seen that this is an enormous industry, and one of the most valuable products grown.

## Why COCOA Is the VEGETABLE EGG

## Why Some EYES FIND THINGS Easily

**A**LL good eyes do not see alike. People whose eyes will show the same focus by an expert test do not see alike. They may look at the same object and see it entirely different.

Some men are adepts in finding something with their eyes, while their companions who may possess just as good vision are not able to locate objects at all without great difficulty.

The man who can walk about the lawn or in the park and pick up four-leaf clovers has an eye that is worth big money to him. He can easily be trained to see things that the ordinary man will miss, or have to look a long time to find.

Some men who go hunting can see a squirrel in an oak or hickory tree with apparent ease, while others will go strolling about the timber and never see the game at all. It is the same way in the open field. The rabbit can be found sitting by some while others will almost run over the creature before they are detected.

This ability is a gift. This is not only a gift developed by some and undeveloped by others as a result of their surroundings, but it measures the exact amount of intelligent effort they have expended in attaining this ability, also their perseverance in this line of endeavor.

Aside from the external causes that have made us what we are, environment and heredity, is an inherent capacity of individual intelligence, or in other words natural ability.

To define intelligence is not herein attempted, the purpose being only to show what natural ability aided by the right method has done and may still do.

It therefore remains that it is not the physical condition of the eye alone that determines the difference of perception, but how well it has been trained, along what line, and the innate capacity of the individual intelligence that directs it.

The brain is really responsible for our ability to see objects better than others. Our soul has a closer connection with things material, and the powers of the brain are prompted by those inner powers that man is at loss to fully understand.

We are benefited by the development of quick perception simply because the movements of man in this age are so much more rapid than in former ages we must see and grasp the situation quickly, or our time and efforts are spent in vain.

The brain is supplied with impression plates as a camera is supplied with plates to catch the object to be photographed, and unless we can expose instantaneous brain matter we are slow.

Physically speaking, the reason why some men's eyes are able to perceive more than others is due to the effort made in training both eye and brain intelligently and persistently.

Heredity and surroundings are important factors, but the inherent capacity of individual intelligence, or natural ability, is the physical reason. Thus natural ability, aided by intelligent effort and perseverance, perfects our faculties. How well we have done so shows

the strength of our will power, the degree of intelligence, effort expended, and how we have persisted in that line of endeavor.

This ability is a gift, and it may be cultivated to a certain extent, but there must be the natural ability before the education will make the gift extremely proficient.

Some say they never have the luck to find anything, while others scarcely go out but they pick up money or something of value. The eye simply does not take in the situation.

As proof of these assertions, and for the very best test or practice, let a person enter a room and remain a given number of seconds or minutes, and then let him retire and tell what he saw in the room. Practice of this kind will make persons much more proficient, and it is an excellent test for those who need their perceptive powers sharpened up for some certain vocation.

Such development in man of to-day is very valuable. Our movements must be rapid, our understanding quick and our action immediate if we are on a level with the events of to-day.

## How SWEETENED WATER Makes CUT FLOWERS KEEP LONGER

**T**O prolong the life of cut flowers two professors of the School of Agriculture at Rennes, France, have recently compared the effect of various solutions with that of plain water.

Over 100 different kinds of flowers were tried. It was found that most of them would live and stay fresh much longer if some sugar was put into the water in which they were kept.

Sugar, however, was no help to tulips, daisies or chrysanthemums, and it was a positive injury to lilies and sweetpeas. It accelerated the opening of the buds, especially of roses and orchids.

Small quantities of chloral, ether, glycerine, alcohol, lime water, and even ammonia salts, served to lengthen the lives of various kinds of flowers. The water thus "modified" should come

as near as possible to the blossoms. In other words, the stems should be immersed as deeply as possible.

Some of the flowers kept in sugar and water lived four times as long as would ordinarily be the case. The amount of sugar required varies. Carnations require 15 per cent of sugar, and roses from 7 to 10 per cent. Orchids should have from 10 to 20 per cent.

Flowers wilt because of the collapse of the individual cells of which they are made up. They remain fresh as long as the pressure of fluid within and without the cells stays uniform.

This balance of pressure depends upon a liquid containing substances in solution, and by "modifying" the water the requisite substances may be artificially furnished.

The professors of Rennes state that to change the water in which cut flowers are standing is injurious to the flowers, except when it is necessary in order to prevent the accumulation of products of decay.

The consumption of cut flowers is enormous. Nothing takes their place in the decoration of rooms and banquet tables; therefore any available means of lengthening the duration of their freshness—so lamentably brief under the usual conditions—will be eagerly welcomed.

Floral adornments of this kind for a single wedding reception or dance in a home of wealth and fashion would brighten the convalescent wards of half a dozen hospitals. If the length of life and beauty of cut flowers could be no more than doubled, tons of them could be put to this charitable use daily in every large city after they had served their original festive purpose.

## Why to Shun BANNISTERS

**I**F we expect to avoid coming in contact with all sorts of dreaded disease germs, we should avoid catching hold of the stair bannister on the stairway where

people of every walk of life are passing hourly. We naturally slide our hand up or down the bannister as a means of support or protection, but by so doing we are placing ourselves in much greater danger.

Janitors of all public buildings should be compelled to keep the stair bannisters as clean as possible. A carbolic wash or other

antiseptic should be used. In school buildings the stairways should be made in such a manner as to avoid the bannister.

Iron railings or bannisters are more sanitary than wooden ones, and easier kept clean. Brass ones are worse than wood.

Elevators have killed a few people, but at the same time they have saved the lives of thousands in permitting people to go up and down in great structures without being almost compelled to run their hands through a coat of disease germs.

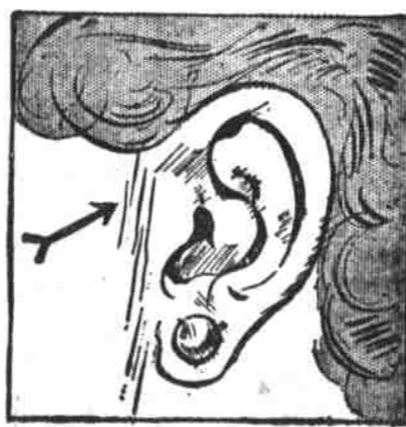
## How You Can't Stop EARS GROWING OLD

**T**HERE seems to be no hope for your ears. They will grow old, no matter what you may try to do for them. The other features of the face respond more or less readily to treatment by the beauty doctor. But the ears are hopeless.

Only very young people have really pretty ears. We all know what constitutes a pretty ear—shapelessness, plumpness of outline, and rosiness. In addition, it must be small. But even the most beautiful ear has lost much by the time it is in its early thirties.

For one thing, it is not so shapely as it was. Ageing is a wasting process; its most significant phenomenon is shrinkage of tissue. This shrinkage makes itself apparent earliest in the ear.

The ear is built on a skeleton of cartilage. When the enclosing layer of flesh shrinks even a little, it begins to reveal more or less of the harsh outline of the cartilaginous skeleton. Loss of beauty is the result. Owing to the same tendency to shrink, a vertical line or wrinkle appears directly in front of the ear. It



"As the ear shrinks, a vertical wrinkle appears directly in front of it. The line marks the beginning of age, and its removal is impossible."

marks the beginning of age, and is ineradicable; not even the most skillful massage expert can take it out.

Of course, the ears of a plump person do not exhibit the wasting process so markedly as those of a thin person. Nevertheless, they lose their beauty of contour soon after youth is past. If one takes the trouble to look, it will be noticed that the ears of elderly people are usually very ugly—though, doubtless, many of those same ears were pretty once upon a time.

To be pretty, as already mentioned, an ear must be at least reasonably small. But, unfortunately, ears grow big. The other features stop growing when adult age is reached, but the ears keep on growing very slowly through life.

Anybody who looks about him will find that the largest ears belong to the oldest people. The middle-aged ears he will notice are bigger than the ears that are newly grown up.

We are not accustomed to think of ears as features of importance, except for hearing purposes. But, as a matter of fact, they have a whole lot to do with the expression of the face.

## What Would Happen if the EARTH TURNED FASTER

**I**T has been figured out that if the earth were to rotate eighteen times as fast as it does now a man at the equator would weigh nothing and that if he jumped in the air he would remain there. The man who would weigh nothing at the equator would weigh 200 pounds at the poles, and varying no planets that turn eighteen times as fast as the

weights between the poles and the equator. There are earth, but there are some where the force of gravity is entirely different to what it is here. On the moon the average man would weigh no more than fifty pounds, it has been estimated, and could jump as many feet—that is, fifty feet—without trouble. This, however, would happen on any part of the moon, not because of the centrifugal force, as would be the case if we were spinning about eighteen times faster, but due to a lack of gravitative force on the moon.

Measuring labor from our present standards, a laborer would have to receive enormous prices at the poles and scarcely anything at the equator, for at the poles everything would be extremely heavy, while at the equator a man might pick up a small cottage if he could get a good grip on it, and carry it about.

To go south under such circumstances would mean more than it does now, for in the South a man would feel light and springy, he could walk all day without tiring and jump over almost any obstacle, like a tree or a house, landing lightly.

Unless railroads ran east and west the problem would be difficult to solve, it seems, inasmuch as a locomotive could scarcely pull the train in the North, while in the South they would have to run under the lightest of pressure or else, with full steam on and no gravity, the train would pass the equator at about the literal speed of lightning.

All this is, of course, conjecture, but it is based on careful studies of centrifugal force and its action on gravity.