DIET AND HEALTH

By DR. J. T. ALLEN
Food Specialist

Author of "Eating for a Purpose," "The New Gospel of Health," Etc.

WHAT SHALL WE EAT?

If it is true, as many eminent authorities say, that health, happiness, beauty and efficiency depend upon eating more than on anything else, it is worth while to know what to eat.

Henry Ward Beecher said that a man with a poor liver can't be a good Christian. Certainly it is easier to exercise the Christian graces when one is free from biliousness.

When Bishop Fallows says that "You can make a man good or bad according to the way you feed him," he is not denying the importance of the condition of the heart, but emphasizing the importance of the state of the stomach. Daniel prepared himself and his companions for the wonderful ordeals through which they passed by dieting as well as by prayer, and the Master himself by fasting 40 days.

As we watch the amoeba, the typical unicellular organism, which closely resembles a blood cell, under the microscope, we find it changing its form, gradually, continually. It is all stomach, enwrapping its food and digesting it as a single organ; and as a single organ it adapts means to ends in securing a meal, "as perfectly," says Cope, the eminent biologist, "as a statesman adapts means to ends in organizing a government."

The body, therefore, is made up of a myriad of cells, each seeking its own nutrition, its primary, fundamental function, yet possessing the power of socialistic, harmonious action, organized as lungs, liver, heart, etc., subject to the influence of the sympathetic nervous system, which binds all the bodily organs together, so that if one suffers all must suffer in sympathy; carrying on the vital processes into which the nutritional function is organized, unceasingly, while life lasts, yet ever amenable to suggestion through the sovereign, conscious will.

Digestion is not a purely physical process, performed independently by a set of digestive organs. The entire organism is engaged in the process, controlled by the sub-conscious mind, subject to the influence of the conscious mind, the sovereign will. And, conversely, the influence of feeding is not confined to the special digestive organs, nor to certain effects which we denominate "physical." The influence of feeding is all-pervading. It is the mainspring of the mental-physical life. In its essence spiritual, it manifests the life through the use of material substance, food. And upon the quality of the food and the degree of expenditure of vitality in the process of nutrition, depends largely the quality of the life, mental, moral and physical. The question: "What Shall We Eat?" becomes in this light doubly important.

The essential substance of which all animal tissue is made, from the amoeba to the brain of man, is albumen. This albumen is found in the food of all animals. The white of egg is almost pure albumen; and in milk, the food of the young of all the mammalia, albumen is a large constituent. Experiments have been made to determine what foods will alone support life, determining that wheat gluten, which is almost pure albumen, supports life indefinitely longer than any other single element. Flesh, of which the lean is principally albumen, will support life indefinitely, as will milk, eggs, nuts, beans, wheat, corn, oats, dates, which contain a large percentage of albumen with other food elements. Milk has been called the perfect food because it contains, in addition to albumen, all the other elements necessary to build brain, muscle and bone; and the same is true of wheat and of some nuts and fruits. The milk of all the mammalia contains the same food elements, differing chiefly in the amount and kind of the albumen. Cow's milk is not a perfect infant's food because it contains a larger percentage of albumen than its natural food and of a somewhat different character. This important subject will be treated in a subsequent article.

Albumen is found in large percentage in all nuts, in beans, peas and entire wheat bread. Peanuts contain about 30 per cent. of albumen, with 50 per cent. fat not inferior to olive oil, and four per cent. mineral.

Recent experiments have shown that the percentage of albumen required for perfect nutrition is much less than was formerly supposed. The growing child requires probably three times as much as the mature man because it must build new tissue besides repairing waste. An insufficient supply of albumen for the child, if long continued, leads to serious results. A case was recently brought to our attention in which an infant had been fed for several weeks on fresh cream, because it was found that the stomach retained that while the entire milk was persistently rejected. At first there was an apparently satisfactory gain in flesh, but this gave place to extreme weakness and wasting. The cream was mixed with a part of the balance of the milk, gradually increasing the amount of albumen and other necessary elements of nutrition, and normal conditions soon returned. And here it may be remarked that excess of fatty tissue is an indication of disease, not of health.

The necessary albumen can be obtained from flesh because it is a necessary constituent of the flesh of all animals, including fish. But flesh contains a small percentage of waste matter of the animal's system. It has been repeatedly shown that flesh foods may communicate disease, despite the inspection; and the human alimentary canal is not as well adapted to the digestion of flesh as is the organism of the carnivora, in which the stomach and liver are relatively much larger and the intestines much shorter than in man. The well-known tests of endurance recently made at Yale university proved that non-flesh eaters had much greater sustaining power. In all the great walking contests in Germany and America the winners have been abstainers from flesh meat.

The best sources of albumen, aside from meat, are nuts, beans, eggs and whole wheat or graham bread.

But the character of the albumen is important. Albumen coagulates at a temperature of 160 F., and is then assimilated with difficulty. It is for this reason, partly, that the egg is found to be more nutritious uncooked than cooked. And it is for this reason, chiefly, that such apparently wonderful results have been obtained from the use of raw cereal foods, despite the indigestibility of raw cereal starch.

Understanding, then, that the essential element of food is albumen, in its natural state, the question arises: What is its best and most economical source? Considering economic conditions, which exclude the pecan, walnut, and other expensive nuts, the answer is: The peanut, which furnishes an abundant supply of easily assimilable albumen together with fat, which vies in nutritive value with olive oil. This, with a small amount of graham bread, gives the ideal proteid and fat ration. The state of Texas alone can furnish the staple food of our people. The rapidly increasing consumption of the peanut with the corresponding rise in price should induce the planting of a still larger crop the coming season. The incoming crop is the largest ever produced in this country.

Not less than 80 per cent. of the solid part of our food should be that which supports combustion, maintaining heat and muscular energy. This is taken as fat or oil, starch or sugar. A certain percentage of fat is necessary for the best nutrition. If it be true, as many careful students of diet believe, that nuts and fruits are the most natural food of man, this percentage of fat should be large. Animal fats, even milk fat when separated, are assimilated with difficulty and they, particularly lard, are open to other objections. The consumption of olive oil has increased rapidly during the past few years. It is not generally known that peanut fat, as in the uncooked nut or in peanut butter in which fatty acid has not been developed by excessive dry roasting, is equal, if not superior, in nutritive qualities to olive oil, being assimilated with wonderful facility, as the extreme degree of its solubility in water would indicate.

There are serious objections to cereal starch as the major element of food, which it now is in the dietary of the American people. The potato, especially if baked, is much to be preferred to fine white bread. Rice is far superior to the ordinary cereals as a source of carbon, as the example of the Japanese would indicate.

Sugars are the most easily assimilated of foods (including honey), and fruit sugar should be substituted for a large part of our cereal food, cane sugar being inferior. And the best sources of fruit sugar are the ripe banana (almost unknown in this country) figs, dates and prunes.

Fruits are better eaten separately from other foods. Nuts and meat digest in the stomach, chiefly, requiring about three hours there; fruits digest in about one hour, in the intestine chiefly. There is as much objection to mixing them as there is to eating and drinking at the same moment.

Now without here considering further the requirements of an ideal diet, does it not seem evident that we have already a knowledge of facts that would enable us to make a wonderful gain in good feeling and efficiency by improving the nutritive supply and saving a large part of the vital energy daily wasted in digesting and eliminating improper and unnecessary food, if not for the average person who is slow to realize the benefit to be obtained, at least for the athlete who can quickly demonstrate a gain in efficiency by right diet, for the invalid who needs to conserve his vitality and for the aged whose stock is low (but who has, alas, lost to a great degree the power of adaptation)? Hundreds of invalids who have gradually changed their diet have found new life. Many who have had only the desire for greater efficiency and immunity from disease have made the change. A well-known merchant of Aurora, Ill., for example, who has for nearly a year followed an exclusive diet of juicy fruits in the morning, peanuts with a slice of Graham bread at noon and prunes only in the evening, drinking only water between meals, declares that nothing could tempt him to go back to the old way. He says, and his clerks corroborate the statement, that he is worth three times as much in his business; he can write a better advertisement, a better letter; his mind is clear, his conception brilliant, his judgment prompt, his execution sharp, decisive. He rises two hours earlier than formerly and enjoys his work as never before.

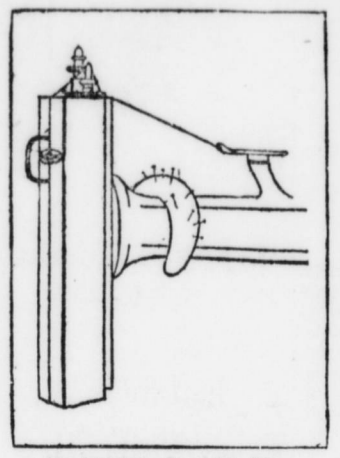
Here, surely, is food for thought.

SCIENCE AND INVENTION

A USEFUL PINCUSHION.

Fastens on Sewing Machine and Is at Hand When Needed.

At first glance the pincushion invented by a Tennessee man does not appear to be a very important addition to the thousands of labor and time saving devices, but second thought



No Need to Stop for Pins.

will show that it has its uses and that they are not so insignificant after all. It is a horseshoe-shaped affair, with a bowed clamping spring arranged inside, and it fastens on the arm of a sewing machine wherever it is needed. The operator can thus have a cushion full of pins right at her hand, where she can get them without stopping the machine or delaying her work for an instant. Only a woman who does a great of sewing can appreciate the time and trouble that will be saved by this little device.

CASTS OF FOSSILS.

Nature the First One to Make Reproductions of Animals.

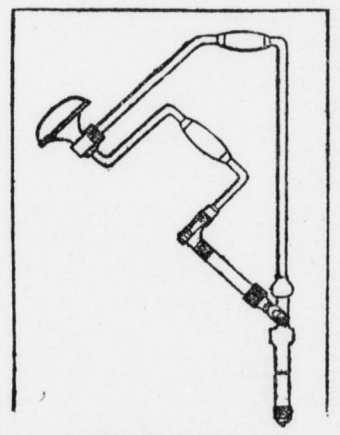
Commenting on Mr. Carnegie's gift of a huge reproduction of his diplodocus skeleton to the museum in Paris, La Nature remarks:

"It would seem that the public do not well understand the interest that attaches to a cast of a large fossil. We have all heard it said: "Why so much fuss over a reproduction? If it was an original, we could understand!' This way of looking at the matter has in it both truth and error. It is true that from the collector's point of view there is as much difference between a real fossil and a reproduction as between a masterpiece and its best copy. The error lies in the importance that is attached to this difference. Scientifically the study of a cast is exactly as instructive as that of an original. Again, from the point of view of instruction, the interest of a cast is of the first degree—and nothing proves it better than the feeling of stupefaction experienced, even by people well acquainted with paleontology, before this wonderful skeleton—because nothing can take the place of direct and personal sight of things in which we are interested. Finally, we must not forget that in paleontology, what is called an original is after all nothing but a cast made by nature herself slowly in the course of ages."—Translated for the Literary Digest.

BORES HOLES IN CORNERS.

New Bit Brace Enables Users to Get Different Angles.

Carpenters should erect a monument to a man in New York, for he has overcome the difficulty they have encountered for years of boring holes in corners. This man has invented a bit-brace that will bore a hole in any



Handy for Carpenters.

corner and at any angle, and the man who uses it need not be a contortionist, either. The brace has a supporting bar of angular form that holds within it the rotating driver, one end of which engages and turns the socket that holds the bit. The cut describes this tool better than the mechanism can be explained in words, for a layman. The importance of this invention can not be understood by people who have little use for tools, but it means that the corner bugaboo no longer exists for carpenters and that the change from the old methods of working in such places is almost revolutionary.

Treating a Carbon Brush.

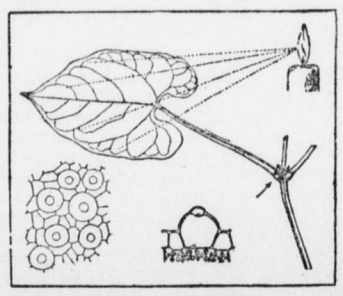
A soft carbon brush that sparks may sometimes be cured by raising it to a red heat and then plunging into a bath of ordinary lubricating oil.

DO PLANTS SEE?

Investigations of Scientists Seem to Prove They Do.

The answer to this question seems to depend, like so many other questions, on a definition. What degree of sensitiveness to light merits the name of vision? If to respond to light-stimulation by appropriate movements is to "see," plants certainly do so; while if nothing short of the formation and apprehension of a definite image of outside objects may be dignified by the name of sight, then the plant world is still blind. The recent discovery of the part played by certain leaf-cells in plants, in concentrating and directing the rays of light, reminds us of the function of the lenses in our own eyes, and the most of this fact has been made of late in the daily press, in articles wise and otherwise, serious and jocose. The sensitiveness of plants to light, and the influence of this on their movements, have of course, been known ever since the sunflower was first seen to turn toward the sun. It may be doubted whether we are any better fitted to-day to answer the question at the head of this article than was the prehistoric witness of this common phenomenon—all would depend with him, as it does with us, on a definition. Says Dr. D. T. Mcdougal, director of the department of botanical research of the Carnegie Institution, writing on "The Faculties of Plants" in The Scientific American:

"Light is, perhaps, the most important factor in the existence of plants, since energy is absorbed directly from its rays and is used in building up complex foods from simple substances obtained from the soil and air. If the plant is to obtain energy from light, the supposition would lie near that it must present its surfaces to the rays in such a manner as to enable it to do this advantageously, for the amount of benefit to be derived from the rays would depend directly upon their intensity, and upon the angle at which they strike the surfaces. With this fact in hand one would at once suspect that the plant might



Leaves and Light.

Leaf-blade Receiving Rays of Light at a Stimulating Angle After the Signal Travels Down the Stalk to the Motor Organs. Epidermal Cells Which Converge the Rays and Are Sensitive to Oblique Rays.

have developed some power of measuring the intensity and direction of the rays. . . .

"Any group of window-plants may be seen bending toward the glass in such a manner as to present the broad upper surfaces of the leaves at right angles to the strongest illumination. The whole shoot appears to be concerned in the reaction, and we must use the blindfolding method to ascertain what parts are sensitive to light.

"If prepared sections of the blades of some of the more delicately reacting plants are placed under the microscope it will be found that the outer walls of the epidermal cells are curved outward, making lenses which converge the rays upon the inner walls, and allowing them to be transmitted to the cells beneath where they play upon the green color-bodies in which the construction of food-material takes place. Imagine one of these epidermal cells to be a room with a convex skylight roof and a glass floor. When the rays come through and fall upon the floor they pass through to the room below, and drive the chlorophyl-mills making sugar and other substances. The lateral walls of the skylighted room are lined with a living layer sensitive to light, and if the leaf or the building is moved so that the rays strike the sensitive layer a signal is sent to a distant shifting mechanism. Slowly, but with unerring precision, this gets in motion and brings the leaf to a position where the rays once more come through the condensing skylight and pass through the floor to the food-making cells below. In accordance with this action the plant moves all of its leaves into fixed positions, in which they receive the daily illumination most advantageously. In certain cases the leaf-blade performs delicately gauged movements by which it receives the rays until they become so intense as to be harmful, and then the surfaces are turned away from the source of the rays. The management of the leaf-screen in either of these cases demands an automatic mechanism capable of detecting very minute variations in the intensity of light, and one which may also accomplish rapid and accurate movements."

The exactness with which the plant can measure intensity of illumination is so great, we are told, that if a small rapidly growing shoot, such as that of a young mustard, is placed in the dark for a few hours and then two standard candles are placed on opposite sides, the leaves will feel the unequal stimulation when one candle is an inch nearer than the other, and the shoot will begin to curve toward it as toward a window. It has been found, Dr. Macdougal says, that some plants can appreciate a difference so small as one three-hundred-thousandth of the intensity of a candle at a distance of a yard.

The KITCHEN CABINET

PAT'S SECRET.

AT is a healthy Irishman,
Fresh from the sod of Erin;
He has no fear of any man,
'Tis only God he's fearin'.

And Pat's a worker—he can do
The greatest task with ease;
He's cheerful, very generous,
Patient and keen to please.

"What is your secret, Pat?" I asked,
"No man in any station
But envies your content and health."
"Me sacret?—Moderation!

"I ates whin I am hungry, sor,
I dhrinks when I am dhry;
I laves off whin I've had enough;
And that's the raison why."

"Kennel Maids."

Here, in America, we ask: What is a "kennel maid?" But that is because we are behind the times; we do not know that in England it is considered essential to have one's pet dog, of fancy breed, or just plain dog, perfectly groomed, fed hygienically, and tended with the care we bestow on our infants. And, that this may be all done decently and in order, there are in our mother country "canine specialists," women specially trained for the work.

Of doggie's toilet they make an art, and a prominent woman who calls herself "canine ecialist," earns more money than anybody not familiar with the foreign coins would take the trouble to figure. Suffice it that this is really a legitimate and thriving business, and £150 a year is considered a moderate salary for the educated "kennel maid."

Two Time Savers.

To save trips up and down stairs, have a small table at the head and foot of the steps. All things belonging on either floor can be placed on their respective tables and carried up or down as members of the family happen to be going. It saves mother's strength and steps. And the things will be in their proper place when needed.

Round cookies are the bane of the cook. They take so much time. Try making square cookies. Roll the dough thin and cut it into the squares of any size desired with a thin knife. It saves rolling the dough over and over again, and has the advantage of requiring less space in the cake box.

THE "HOME BAKERY."

N THE suburbs of a city where I hie me
At evening, when from work the day is free,
Past the station, on my way home, I espy me,
A quaint, old-fashioned shop — "Home Bakery."

In the window there's a salad, appetizing,
And some pies, they say; "like mother used to make,"
And I linger there a space; it is surprising,
How I love that window, just for old times' sake.

For the smell of baking things comes thro' the doorway,
Like incense from my childhood's censor flung;
We may not scorn them—things so plain and simple
Made up the whole of life when we were young.

And so I linger by that bakery window;
Go in? Not I, for that would break the spell;
For me the place is filled with friendly phantoms,
No real folk there could please me half so well.

Powdered Milk.

The latest demonstration of the tendency toward the condensed mode of living—the approaching epoch of the vest-pocket dinner—is powdered milk. This preparation is actually on the market, and has already found favor because it solves the problem of "short notice" coffee. If there is no cream in the house, mix a little of the new stuff with cold water, and presto, cream for the emergency! It is recommended for daily use, also. At night, pour boiling water over the powder, let it stand until morning, when cream can be skimmed from it, bringing the country comfort to the breakfast table by the use of the magic powder. Truly, the days of Aladdin's lamp are upon us.

A French Steak.

Place a thick sirloin steak in baking pan, in which a few bits of suet have been browned. Salt, pepper it, and add a few tiny bits of lemon and suet. Cover with a thin layer of sliced onions, and on this pour tomato catsup. Bake about half an hour. The onions should be brown, but the steak rare. Experience will govern this.

Bridget's Beatitudes.

Blessed is the cold water poured into pots and pans. Then set them away from the heat; they should never be put on the stove to soak; this makes them harder to wash.

Blessed are the vegetables housed in the cellar for winter use. Keep pumpkins in the dryest part, apples next, and turnips in the damp end away from any heat.

Blessed is the little boiling water added to the omelette to prevent its being tough.

THE "HOMELY" THINGS.

NCE on a time a tortoise of
A plodding, slothful habit,
Was jeered at, laughed at, taunted by
A boastful, bragging, rabbit.

The story then goes on to say
How Tortoise stopped that game,
And how, though he was slow and calm,
He got there, just the same.

'Tis so with womankind—one may
Be learned in bookish lore,
Another gets the meals for Pa,
Perhaps knows nothing more.

Indeed, your sweet, domestic girl
Is oft behind the times;
She doesn't take to Ibsen,
Nor fathom Browning's lines.

But when a wife is wanted,
Is any one to blame,
If the girl who loves the "homely" things,
Should get there, just the same?

A Word on Garnishing.

A table neatly garnished is a joy forever, but beware a careless decoration; it is much worse than none.

The parsley should be fresh and green, the lettuce crisp (and well dried), the celery leaves pale yellow and standing upright as if growing on the dish. The greenish, larger leaves are not fit for garnishing. And, too, many a dish has been spoiled because the lemon was sliced too soon, and had a suspiciously dark, disintegrated appearance, or the greens, of whatever kind, were limp and faded, giving a most unappetizing air. Salad, especially, requires careful garnishing or it will, from the mixed nature of the dish, be suggestive of stale left-overs —or worse.

Grape Juice.

Now that grapes are in market, at a moderate price, and the cook is turning them into grape juice, it is well to remember two important facts in connection with fruit juice of all kinds.

First, that clear, unfermented fruit juice is one of the best brain and nerve foods—nourishing and stimulating.

Second, that it must, however, be entirely free from fermentation, for it has been proved by chemical analysis that the nourishing elements of the sweet fruits are entirely consumed by the process of fermentation, and that while fermented juices will stimulate, they will not nourish, the body.

Banana Puffs.

Mix together one cupful each of flour and sugar, one teaspoonful baking powder, three eggs, well beaten, and a quarter cup milk. Into this batter stir three sliced bananas. Half fill custard cups and steam an hour. Serve with lemon sauce.

THE STUDENT-WAITER.

HEY say Johnny B—'s gone to college,
And they tell me he's working his way,
Doing all sorts of jobs for the fellows—
For his brains they are willing to pay.

He does writing, runs errands, and even
Helps to coach fellow-students less able,
And three times a day earns his living
By waiting on others at table.

But John keeps his dignity ever;
A gentleman—none can forget it.
And if any one tries to "get funny,"
John calmly will make him regret it.

When once an impertinent Freshman
Stopped John as he carried some plates—
"Say, are you the waiter who studies?"
"No," said John, "I'm the student who waits."

Macaroni a l'Italienne.

Boil macaroni until tender in water to which has been added an onion stuck with three or four cloves, and a tablespoon of butter, with salt to taste. Drain and blanch by pouring over it cold water. Reheat, and cover with sauce made of tomatoes (one-half can), cooked with a teaspoon of sugar, a dash of herb and salt. Mix in a half cup of mild, grated cheese, and pour over all a cupful of good brown stock. Bring to the boiling point and serve hot.

The French dressing, too, the mixture of olive oil and vinegar, is rather new to this country, and old-fashioned folks are yet shocked at our reckless use of oil in salads and cooking.

"Matrimony."

This is a West Indian dish, and takes its name from the fact that it is "a perfect combination," as the people there naïvely say.

Grape fruit is sweetened and prepared with a dash of lime-juice; it is then (having been first cut in halves), piled high with neesberries—a fruit which has a simple substitute in pears —tasting very like them. Add sliced bananas to the whole, and you have what the people of Jamaica call the "perfect combination." The cynic who thinks he would not care for the mixture, may still not object to the name, and the disagreeable man has even been known to think the title very apt.

Olivia Barton Thomas