

TEMPERANCE PHYSIOLOGY.

FOR USE IN SCHOOLS AND BANDS OF HOPE.

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CHAPTER X.—DIGESTION.

Hunger and thirst are cries of the whole body for food and water, though only the throat seems to call for the water and the stomach for the food.

Digestion is the preparation of the food which has been taken into the stomach, for the use of the body.

Many wonderful changes must take place before the beef, potatoes, bread, water, and other food which we eat, can become solid bone and liquid blood, strong in muscle, working hand, and thinking brain.

WASTE AND REPAIR.

Tearing down and building up—making and unmaking—these two processes are always going on within us.

If you stand by a city market, you may see carts bringing green peas, fresh meat, milk, and other food from the country farms. Other carts, at the same time, are carrying off barrels of ashes, bones, scraps of food, and other waste matter. They will dump this stuff far enough from the city to prevent any harm to the people from its decay.

Work very much like this goes on in your body. There are certain vessels whose special duty it is to carry the prepared food to the different organs, and others that are the scavengers of the human system.

If you should stop eating, you would starve to death in a short time; if you should keep the waste matter in your body, instead of letting it pass out through the skin, lungs, kidneys, and other organs, you would die even more quickly.



The stomach and intestines. 1, stomach; 2, smaller intestines; 3, 4, 5, 6, large intestine.

early on a summer morning, you may see carts bringing green peas, fresh meat, milk, and other food from the country farms. Other carts, at the same time, are carrying off barrels of ashes, bones, scraps of food, and other waste matter. They will dump this stuff far enough from the city to prevent any harm to the people from its decay.

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ORGANS OF DIGESTION.

The principal organs of digestion are the mouth, gullet or esophagus, stomach and intestines. Taken together, these are often called the food canal.

This canal, in a full-grown person, is about thirty feet long. Here and there, beside it are little fleshy bags called glands; these glands have the curious power of separating certain juices from the blood; this is called secretion.

It is these juices which digest the food. A tongue much coated shows that the whole lining of the food canal, as well as the part which we can see, is out of order.

THE TEETH.

The mouth, with its fixed roof and movable floor, takes in the food, the tongue, cheeks, and jaws, move it backward and forward, up and down; the teeth cut and grind it. This should be well done, because the digestive juices cannot mix quickly or properly with lumps of food. A child has twenty teeth; these last for a few years, and are then pushed out by the growth of others behind them. This second set numbers thirty-two in all—sixteen in each jaw.

Those in front are sharp and of use in biting. The back teeth are broad, and are much used in chewing; they are fastened into the jaw by two or three roots, while the front teeth have each but one root.

The bone of a tooth is covered with a hard, smooth coating, called enamel which protects it. If this enamel is broken in any way, the teeth are likely to decay and

to cause a great deal of trouble and pain. CARE OF THE TEETH.

If you wish to have good teeth and to escape the pains of toothache—brush your teeth after each meal, and pick them, if necessary, to remove particles of food, with a quill or wooden tooth-pick—never with a pin, lest you break the enamel. For the same reason, never use the teeth to crack nuts or bite thread. "Better to take pains than to have pains take you."

It is very warm in the mouth—nearly 100° by the thermometer, as warm as the air on a hot July day. At that temperature, a piece of meat would spoil in twenty-four hours.

If we eat meat for dinner, the little pieces which get between our teeth, if not removed, will soon begin to decay in this warm place, and so injure the teeth and gums.

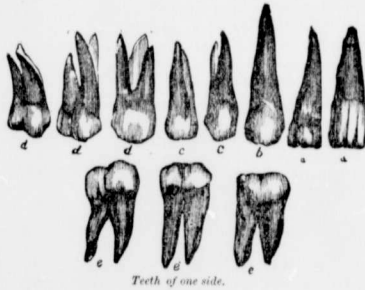
A TEMPERANCE OASIS.

The Anglo-New Zealand and Australian Times states that, on the requisition of the native race in New Zealand, the whole of what is known as the "King Country" has just been proclaimed by the Governor of the colony as protected from the sale of intoxicating drink forever.

There is a provision in the Licensing Act of the colony which was inserted with this object in view. It provides that if the native owners of any land on which a license for the sale of intoxicating drink has not yet been granted make application to the Governor to have their lands exempt from the operations of the Licensing Act, the Governor in council shall make proclamation declaring that no license for the sale of drinks shall be granted within such areas. For many months past some friends of the Maori race have been actively exerting themselves to bring the knowledge of this provision before the minds of the natives, and have succeeded in obtaining the cordial assent of the whole people, from Tawhiao down, to have their lands protected from the demon of intemperance; the application has been presented and the proclamation made in legal form. It is interesting to know that, the proclamation once made, there is no provision in the act for recalling the prohibition from the land, which can only be done by a special act of Parliament. The consequences of this is that an area of three million acres of the most fertile land in New Zealand, and possessing one of the finest harbors in the colony, has been absolutely dedicated to temperance for ever."

WHERE AND WHY?

A husband is sitting alone in the back-parlor. His head is in his hands, and he is deep in thought, when the door opens, and his three motherless children in their little white night-gowns come in and say good-night to papa. He clasps them one by one in his arms—they ask, as they did last night, and the night before, "Where's mamma, where's mamma coming back?" He can't speak, but motions for them to leave, and as



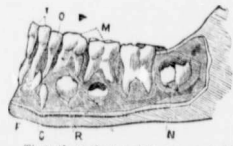
Teeth of one side.

the servant takes them upstairs, and they are still asking the same question, his heart echoes "Where? Where?" \*\*\*\*\* And he lives over again the last eighteen months, and thinks of all the steps down, down, from that morning when he and the doctor persuaded her to try a "more generous living," and not to be "so afraid,"—and when soon after he sent in for her use a dozen of strong old port and Bass's bottled ale, and he remembered all the fears which sprang up some weeks later that she was going beyond the doctor's orders, and then the gentle remonstrance, and the sharp

reply, and the excited manner, and the wandering look—and then the remonstrance again, so carefully worded, but angrily received—and the whispers in the kitchen, and the shyness of friends, and then the revelation of it all—and then the disappearance! And as he sits there alone, and sees, as by a lightning flash, that but for his urging and supplying the "stimulant," his beloved one would have been his still—he can only say, "I never thought of it."—Mrs. Hurd Smith.

WHAT IT IS MADE OF.

"In a Demerara sugar-factory they take the sugar-canes into a big sugar-room, put 'em in a mill, and squeeze 'em flat and dry;



The tooth at the age of six and one-half years. 1, the cutting teeth; M, the grinding teeth; F, C, B, S, the new or second set of teeth.

so you have on one side the press a well of brown juice and on the other dry canes that are so dry they shovel 'em right into the fire to boil the juice to sugar. When it is boiled enough they put the sugar crystals in some drums that whirl like lightning, and it comes out, clear, clean, white sugar. The molasses and the syrup they make out of what did not turn to sugar; and the dregs out of the clarifiers, the scum of the boiling kettles, the settlings out of the molasses-tanks, the sweepings of the floor they take to make rum. Now I never saw such a filthy, dirty place as a sugar-boiling room floor. There's mud on it from the cane-brakes; there's cane-dust. The men and boys who make the sugar, because the whole place is hot as an oven, run round almost, if not quite, naked, and the intense heat makes them perspire, and they spit on the floor, and their bare feet are on the floor, and any staidie is as clean; and they sweep it all up with dirty brooms, and refuse from the floor, and scum and dregs, all go right into the rum-mill and come out stuff to drink! Oh, I just tell you if they'd make every bar-room hang in the middle a bottle of the stuff they make rum of, ch! men could not drink it. I don't believe one of 'em has got a stomach stout enough to let 'em. If I talk any more we none of us can eat our dinner. Only you mind I have told you true, for I've seen it."—Mrs. Julia McNair Wright.

OUTSIDE OF THE CLASS.

BY J. P. BALLARD.

He is a very much disappointed spider, and he doesn't understand the situation! I have been watching him with a pleased curiosity; at first attracted by his staying so long in one place on my window-sill, then walking a little way, first to the right and then to the left, then going up on the glass a few inches, and quickly falling down as if upon prey. There is a fly in the case, and the fly seems to understand and enjoy the situation. He is outside of the pane. But he looks to the spider very near, and very real, and when he moves the spider moves, and renews his attempt to secure a meal. The fly lifts his wings a little, and now and then bends his head, and brushes and plumes himself as if darning the spider to come on. It is now more than an hour since he first undertook the case, and he begins to look crestfallen and walk further away. No, back he comes, again watches the fly, and again retreats. So long as the fly keeps on the right side of the glass he may snap his sharp eyes and bob his orange-dotted head in vain. There is a moral in this, but so easy I shall leave it for the children to get.—YOUTH'S Temperance Banner.

HINTS TO TEACHERS ON THE CURRENT LESSONS.

(From Peloubet's Select Notes.)

Aug. 16.—1 Kings 18: 30-40.

SUGGESTIONS TO TEACHERS.

Picture the scene on Mt. Carmel as we left it in our last lesson.

We find in this lesson two prayers and their answers. I. The prayer of Elijah for fire from Heaven (vers. 30-37). Notice the various points mentioned in the notes,—the symbol of a united nation, the fairness of Elijah even to generosity; the qualities to be remarked in this prayer, (1) at the appointed season, (2) recalling past blessings, (3) appealing to a covenant-keeping God, (4) short, (5) earnest, (6) unselfish, seeking the good of the people and the glory of God.

II. The first answer (ver. 38). The fire fell from heaven in a manner to convince all who saw it that it was divine. Miracles are the proof that God speaks through man. God answers by fire now through the work of the Holy Spirit. The conversion of men, and the work of the Gospel in changing and elevating nations, is more marvellous, and a greater proof that the Gospel is from God, than fire from heaven, like this for Elijah, could be.

Illustration. The Gospel, with its supernatural energies, is doing what no other religion, what no philosophy ever did or can do. We may confidently appeal to this test: "The God that answereth by fire!"

A friend of the writer was asked to enter on a public discussion with some secularists. He replied, "When you can find me twelve families who were once Christian, but by embracing your views have become more virtuous, useful, contented, and happy, better and happier in this present life, according to your theory, I shall think it worth while to argue with you, and not before; for I can find you one hundred families who were once living only on your theory, and for this present world, but who, by Christianity, have become better husbands and wives, better parents and children, or better neighbors and citizens, more virtuous and sober and happy." Yes, let religion be tested by its purifying power. "The God that answereth by fire, let him be God!"—Newman Hall in S. S. Times

III. The second answer (vers. 39, 40). The people convinced, and immediately committed to the true cause by being set to work to destroy the destroyers of their country. This illustrates a great principle,—the moment any impression is made on the feelings, crystallize it in action.

IV. Elijah's prayer for rain (vers. 41-44). (1) A prayer for what had been promised; (2) prayer with watching; (3) prayer with the answer delayed; (4) persevering prayer.

V. The answer (vers. 44-46). This answer came by natural law, as the other came by miracle. God controls nature, and its work is his work.

FRIENDSHIP.

Having carefully chosen a few friends, we should never let them go out of our lives if we can by any possibility retain them. Friendship is too rare and sacred a treasure to be thrown lightly away. And yet many people are not careful to retain their friends. Some lose them through inattention, failing to maintain those little amenities, courtesies, and kindnesses which cost so little, and yet are hooks of steel to grapple and hold our friends. Some drop old friends for new ones. Some take offence easily at imagined slights or neglects, and ruthlessly cut the most sacred ties. Some become impatient of little faults, and discard even truest friendships. Some are incapable of any deep or permanent affection, and fly from friendship to friendship like birds from bough to bough, but make no nest for their hearts in any. There are a great many ways of losing friends. But when we have once taken them into our lives we should cherish them as rarest jewels. If slights are given, let them be overlooked. If misunderstandings arise, let them be quickly set right.—Selected.

THE DIRECTORS of a large life assurance institution in England, have issued a notice that in future an extra premium shall be charged for assurance on the life of any person engaged in the sale of intoxicating liquors.