

something for food. The scale of nutrition is so wide even with human beings, that one is astonished at nature's power of accommodation. Clays of various kinds even serve this purpose; and the immunity of children from foreign substances taken into the stomach is no less surprising. One nurse, who was watching the experiment of what a child may eat without inconvenience, reported that her baby during one day swallowed one button, a piece of rag, a taste from the paint brush, and, she believed, a small bullet!

Suggestive of the law of "Eat or he eaten," is the child's instinctive fears of an open mouth with a grinning row of teeth, or of widely straining eyes. It points to a time when our ancestors had to face ugly brutes in the forest and battle for their lives. The child's instinctive fear of the touch of fur points to a similar origin. Even our smile, which is now so spiritualized, and responds mainly to emotions of beauty, first began with a tendency to open the mouth preparatory to swallowing an unusually tempting morsel.

While the primal purpose of food—the purpose illustrated by the animal creation—is to prolong life, man has added another—the desire to work and accomplish results that he can leave behind him. This leads to the question how can he economize the energy needed for digestion, so as to have more for muscular activity. Such a need led to cooking our food, and fire became therefore not only the emblem of the home, but it may be named as one of the primal forces of civilization.

Cooking conserves energy; the better the cooking, the more is energy conserved. It is maintained by some chemists that processes may in the future be so perfected that we shall be able to pour out of a flask into the jugular vein the elixir of life, as it now enters the heart from the digestive organs, and thus do away with about thirty feet of intestinal canal. I am gratified that I shall not live to see that day; I prefer too well the idle pleasures of the palate to a flask and stop-cock.

Originally all digestion was by the skin; then by the skin infolded so as to make of the animal an elongated tube with apertures at each end for the reception of food. Then the necessity of choosing between foods, led to one orifice being specialized for ingress, the other for egress. The quest for foods led to the sense of touch, and from touch, by future specialization grew sight, hearing, taste and smell. Appetite may be called the physical conscience, and taste its precursor. Smell is but a spiritualized form of taste, as when we say anything "tastes like a bedbug;" we mean as a bedbug smells.

From so primitive a condition has animal life risen to the complexity of our organs, the most marvelous mechanism known to man. The heart alone lifts daily 227,000 pounds. No other mechanical contrivance can compare with it for amount of work, save perhaps the muscle which holds up the upper eyelid.

All forms of death and disease are starvation. Whenever, for any reason, the blood cannot reach any cell, it dies of starvation. We call it disease when life can go on in spite of it—death—when it touches a vital organ. Digestion and life therefore are related, if not as cause and effect, yet as concomitants.

But there is a higher form of digestion not yet spoken of. It goes on in the lungs and the product is oxygen. Lung digestion is at the basis of all higher mental work; and other things equal, the mind varies in power and clearness according to the quality of air furnished the lungs.

It may be well now, from this fragmentary exposition to draw attention to some specific phases that affect education:

1. The muscles are digestive organs. It is not possible to live a complete healthful life and neglect this fact. Young ladies should bear it in mind when they pause to take a street car to their homes only two or three blocks away. The muscles will not do their part of digestion unless they be exercised. The science of biology emphasizes, therefore, the edict placed upon Adam. There is no complete life without work of both hand and brain.

2. The brain is a digestive organ. It consumes relatively more blood and better blood than any other organ of the body. Nay, out of the red blood, it refines for its own internal circulation and nutrition, a superior colorless fluid which flows from cell to cell. Neglect of brain culture is detrimental to the entire physical life. Stupidity stands for incomplete brain digestion, which leaves the tissues coarse-grained.

The impression is abroad that unusually active brains are in danger of paralysis. Nothing can be further from the truth. It is the unused brain or the brain used only in certain grooves, that is likely to break down. Thinking is essential to health.

3. Conversely, beautiful complexions, shapely features, graceful vigorous bodies and brilliant minds, though dependent upon completeness and thoroughness of digestion, are equally dependent upon what is digested: "You cannot make a silk purse out of a sow's ear," no matter how elaborate the method. Nine children out of ten, who are set down as stupid and dull, are merely starved—starved either as to the amount or the variety of food.

Every cell in the body has a separate appetite and if the blood does not carry what it wants, it starves or lives a dwarfed life; and a collection of dwarfed particles make a dwarfed body.

Do you see that in education we cannot escape from the physical basis of life? It conditions all the rest. Where a child cannot have both, it is better to have much wholesome food and little schooling, than poor food and much schooling.

The cook is therefore intimately related to the teacher. No better safeguard against evil temptations can be given a young man than a well balanced power of nutrition. Poor cooking and excessive fatigue are the two things which more than anything else lead to intemperance. The foundation of education lies therefore on these corner-stones: 1. There must be plenty of wholesome food. 2. It must be well cooked. 3. Children must be encouraged to eat generously of it. 4. Complete nutrition on the highest plane must be insisted upon; which is possible only by vigorous exercise of body and mind.

Knights of old spent their lives during the Crusades under the motto, "Defenders of the Faith." Let every teacher and every parent enlist first of all under the banner, "Defenders of health."

Dr. Hall closed his lecture amid prolonged applause. In justice to the lecturer, I will say that the composition of the foregoing is the reporter's, Dr. Hall's ideas being given as faithfully as notes taken in long hand would permit.

N. L. N.

DOWN IN SOUTHERN UTAH

Panguitch, Utah, Aug. 25, 1897.

Very few of our people stop to think of the endless wealth of our fair State. Of course the privileges of travel are not accorded to many and but few of

those who do travel observe the real merits of a country and grasp its grandeur and its varied marks of value. We come and go, we praise if it suits us and we find fault if it is not suited to our comfort.

Having heard so much derogatory of St. George, I had formed an unfavorable opinion, imagining, of course, that all the people who lived in Dixie were living martyrs to the cause of humanity. Contrasts enable us to appreciate, and to look into other countries, even though our opportunities are limited, and enable us to look more favorably on our own surroundings. While in Texas last winter the writer was struck with the many interesting features observed in the city of San Antonio. Situated well to the south and west, it partook largely of the tropical zone, though in the dead of winter with us. The temperature was so moderate and the atmosphere so balmy that the people could live out of doors. To see the beautiful flowers and endless variety evergreens, one would imagine he was in our fair city in the beautiful month of May. In the markets could be seen green vegetables and other products which would make you believe it was summer rather than February. Hundreds of delicate people flock to this genial climate to avoid the radical weather of the north, and seek a health resort. If permitted to judge in the matter, our Dixie is a coming San Antonio. We have not commenced as yet to half appreciate our "sunny south," but the day will come, as is the case with that section of country, when hundreds will go to St. George and that vicinity for the benefit of their health and the comforts of a more genial climate. No doubt winter houses will be occupied by these who can afford it, where, if so disposed, not only will they be personally benefited, but can do work in the Temple for their sacred dead. Dropping down all of a sudden we are in a temperature of 109, and in other respects as mild and moderate as that of the southern borders of the Atlantic or the California slope. And instead of paying out hundreds of dollars to get thousands of miles, a distance of a few hundred will bring us in just as favorable conditions.

On either side, and at every turn of the road as we enter St. George are seen the beautiful vineyards, teeming with grapes of many varieties. For a moment one would imagine himself in the Holy Land, and could appreciate the often-made independent expression of the comfortable husbandman, "where he could sit under his own vine and fig tree." When we arrived figs were just ripe, and you could imagine our pleasure in picking the luscious fruit from the tree while it yet sparkled with its ripened hue and beamed full of its juicy flavor. Here and there could be seen the pomegranate and other fruits of a like kind, only seen in these genial climates. Only a short distance from the cities are the cotton fields, producing as fine a grade as any known to the cotton producing districts of the Southern States. All through the South this season there is an abundant harvest, trees are fairly broken to the ground under the burden of beautiful and luscious fruit.

Notwithstanding the abundant crop of fruit, not surpassed by that produced in any country, we may see this fall in our city and country markets imported dried and evaporated fruits, marked to sell at from 12½ to 15 cents per pound, while our Utah product, if saved at all, brings from 3 to 5 or possibly 7 cents. While visiting the Washington Woolen and Cotton mills we met Brother Thomas Judd, president of the State board of horticulture, who in taking a lively interest,