

Vegetarianism and Digestion

SALAD VEGETABLES interpret the simplicity and wholesomeness of Nature, and the conspicuously inviting ways in which they can be served tempt the most fastidious taste. They make possible, too, only a minimum of activity in the kitchen, and no loss of time, money, or anxiety resulting from avoidable dietetic indiscretions. Decidedly rich in organic mineral salts and vitamins, salad vegetables insure a pure blood stream, a clean intestinal tract, and furnish bulk and roughage in balanced proportions. Judiciously used, they are one of the best conservers of vital force, if properly blended with simple and hygienic salad dressings.

Harsh condiments should not enter into the preparation of vegetable salads, if one desires to derive full benefit from the continued and persistent consumption of raw foods. Either one or several of the following ingredients maybe added in small quantities for flavoring and garnishing: lemon juice, lactic acid vinegar substitute, honey, raw sugar, grated horse-radish, garlic, minced onions, finely chopped leaves of mustard, sorrel, dandelion, parsley, or watercress, Superb indeed is mustard flavored seasoning prepared, from the whole mustard seed; the oil as it occurs naturally in its diffused form in the whole milled mustard seed has not been found deleterious to health.

Be that as it may, it is nonetheless generally believed by vegetarians that man's anatomical structure and his physiological functions remained unchanged throughout the ages, for humanity's vital relationship with Nature's immutable laws is

forever fixed! Militant vegetarians have repeatedly emphasized that the shorter intestinal tract of carnivorous animals permits of a more rapid disposition of the waste products of meat. They are firm in their conviction that human beings are equipped with long intestinal tracts, and hence man's anatomical structure and physiological functions are admirably adapted to the vegetarian-fruitarian diet.

This is utterly at variance with the facts and findings of the science of morphology; i.e., the science of structure and form and its effect upon the life expression. Has it ever occurred to vegetarians that this is a world of absolute variables, that no two leaves nor two blades of grass are alike? Variations in the length of the intestinal tract are equally astonishing and should be a subject entitled to grave consideration by vegetarians.

Incredible as it may seem, autopsy examinations have revealed such extremes as an intestinal tract ten feet in length, as compared with another forty feet long. It should be unmistakably evident that a person with an intestinal canal ten feet in length does not possess the same powers of intestinal expression as that enjoyed by one with an intestinal canal forty feet long. Vegetables are not digested in the stomach but in the small intestine.

It is idle to deny that it requires an intestinal tract of greater length and diameter to digest and assimilate huge quantities of vegetables, especially of the raw green leafy bulky varieties, than would be required to conclude the digestive process of meats and other proteins that are largely digested in the stomach itself. Intestinal digestion in the presence

of a mechanically imperfect small intestinal tract must of necessity be incomplete and imperfect.

The fact remains that countless vegetarians, are not natural vegetarians with long intestinal tracts. Morphological examinations have revealed that most vegetarians with large stomachs have a small intestinal tract that is below normal length or else deficient in intestinal diameter. A small intestine of normal length approximates some twenty-two feet. Any measurements of the small intestine showing below normal length are generally indicative of diminished digestive capacity in the small intestinal tract.

The carnal-mindedness of the race body has caused a reversal or retrogression to the anatomical structural tendencies of the animal kingdom, contrary opinions held by vegetarian nutritionists notwithstanding. Yet doctors and dietitians of vegetarian persuasion give little thought to these mechanical

differences and the need for amended dietetic instructions, but base their dietary recommendations wholly on their zealously to inaugurate a regime of clean, wholesome, moral foods.

The stomach of man does only one fifth of the digestive work. While the chief role of the stomach is essentially protein digestion, this process is but three-fourths accomplished in that organ, requiring for its completion the powerful digestive pancreatic and intestinal juices present in the small intestinal tract. The digestion of proteins is achieved through the action of the gastric juice in the stomach. There enzymes convert proteins (tissue-building elements) into peptone or proteose, an exceedingly soluble substance which passes readily into the blood:

The digestion of fat in the stomach is of slight importance as compared with that occurring in the

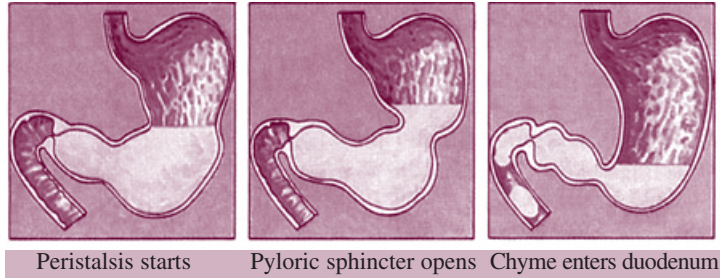
small intestine. Fats cannot be properly saponified or prepared for absorption until they are first completely emulsified and this emulsification or fat-digesting action is accomplished in the small intestine with the aid of the bile of the liver. The fat-digesting enzyme known as lipase, secreted by the pancreas, cooperates with the bile of the liver in breaking up the globules of fat into myriads of minute particles that mix freely with water and remain suspended in it like butter in new milk.

This enzyme is discharged into the intestine through the same opening through which the bile enters.

The mouth and salivary glands are truly organs of digestion, for the digestion of starch commences in the mouth. Carbohydrates (starches and sugars) likewise pass out of the stomach most rapidly, bread and potatoes sometimes entering the small intestinal tract within ten minutes after eating.

The sugar-splitting enzymes abounding in the pancreatic juices enjoy a role similar to that played by the saliva; they are capable of completing carbohydrate digestion by the conversion of starches and sugars into their ultimate carbohydrate, namely, into blood-soluble simple sugar or dextrose. Thus the pancreatic juice in the small intestines digests starch, protein, and fat.

The small intestine is therefore the largest and most important of all the digestive organs. We have seen that all carbohydrates, vegetables, fats, and protein completion enjoy intestinal digestion. The pancreatic and intestinal juices complete the digestion of all foods, which are thus prepared for absorption and utilization. Absorption likewise occurs principally in the small intestine, practically no absorption of digested foods taking place from either the stomach or the colon; all



The stomach is a muscular sac that can contain about 1.5 quarts of fluid. It has three activities: The storage and gradual release of food into the duodenum; the physical activity that churns and squeezes the semi-liquid food, chyme; and digestion. The stomach has six kinds of secretion: Mucus, to act as a protective layer; hydrochloric acid, to sterilize the contents, neutralize the alkaline salivary enzyme ptyalin and break down the inactive enzyme pepsinogen into pepsin; pepsin, which splits protein into peptones; rennin, which curdles milk; intrinsic factor, for absorption of vitamin B₁₂ in the small intestine; and gastrin, to maintain gastric secretions. Small amounts of chyme are passed on at a time into the duodenum, where the main part of enzyme digestion takes place.

unabsorbed remains are deposited in the large intestine or colon.

These disclosures do not suggest the advisability of taking three or four times more carbohydrates and vegetable than the system requires and can take care of, for there is a limit to the quantity and quality of digestive enzymes that the pancreas or any other organ of secretion can manufacture in the presence of a small lower abdominal cavity. Vigor of the digestive function is in direct ratio to the size and degree of development of the small intestine, as well as the availability of the digestive enzymes in the amount required.

The stomach of meat-eaters and vegetarians prone to gluttony is invariably large in the presence of an arrested structural development of the small intestinal tract. Most people so constituted are, as a rule, natural meat eaters, their large stomachs permitting more latitude in the use of protein foods.

Those inclined towards vegetarianism, however, must exercise discrimination there, too, as vegetable protein molecules require a special intestinal ferment (enzyme) for their digestion, which only the intestines can supply, the process being carried on very largely in the small intestinal tract.

Nor is it necessary for vegetarians, where a morphological examination reveals a short intestinal tract, to abandon their vegetarian diet. Recommendation is therefore made that fresh vegetables be partaken of in more limited quantities at meal time and that the deficiency be made up in fractured and dehydrated vegetables which can be used for broths, spreads, salad sprinkle, hygienic seasonings, as a body to soups, and for countless other culinary needs.

Freshly made and properly prepared liquefied fruits and vegetables are likewise permissible

between meals, as is also a special whole wheat milk made from a ready-to-eat wheat processed without oxidation and milled to a pulverized consistency. The latter will serve as an admirable substitute for an in-between-meal dehydrated vegetable broth.

Vegetarians must also restrict protein and other bulky cooked vegetable intake at any one time, and if necessary consume such foods more frequently.

This compensates for our recommended diminished intake of foods at meal time and obviates the need of taxing and overcrowding the small intestinal tract beyond its meager physiological capacity to cope with the herculean task of digestion, absorption, and intestinal completion of more copious single meals.

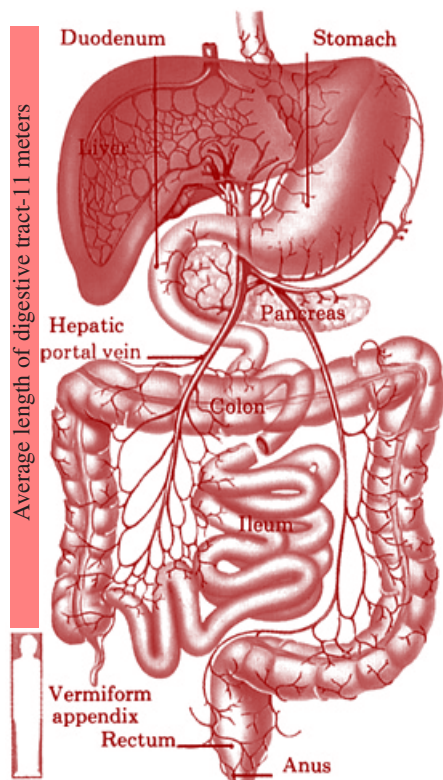
Constipation of a stubborn character is the likely consequence of defective intestinal capacity, imperfect intestinal digestion and absorption and an inappropriate diet, all of which are aggravated by an overdeveloped nervous system, characteristic of many spiritually developed vegetarians. The bowels must be kept open, and the diet altered to conform to structural tendencies and capacities.

But you may ask: "How can I tell whether I have a large stomach in the presence of a small intestinal tract?"

Morphological findings will reveal it and provide the correct diet in either case. For positive or full health can exist only in a body that permits normal expression of any offending organ, showing excessive or deficient form or function, if indeed such normal expression can be achieved.

Alternately, a trained diagnostician must direct must implement the compensating factors that will overcome the indicated excesses or deficiencies, as well counteract any retrograde tendencies. □

—Dr. Lillian R. Carque



The small intestine is about 22 feet long, lined with finger-like protuberances called villi, giving a total surface area of about 350 square yards for absorption. In the large intestine, which is about 4 1/2 feet long some salts are reabsorbed.