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8-1974

## The Vegetarian Advantage Part 2

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# The Vegetarian Advantage

Part 2/ Herald Habenicht

In our article last month we discussed some of the health hazards of using flesh as food. Let us now look at some positive advantages of the vegetarian way of life.

We often hear misinformed flesh-users refer to the feats of strength they perform after eating a big, juicy steak. Dr. Frederick Stare (professor of nutrition, Harvard University) has said: "Lumberjacks may demand plenty of red meat to get timber cut, but that demand rests on habit and not on a nutritional or medical basis."<sup>1</sup>

What are the facts about protein (animal or vegetable) and energy metabolism?

"Man cannot consume and digest sufficient amounts of protein to satisfy his energy requirements."<sup>2</sup> He does best when deriving his energy from three sources, i.e., carbohydrates, fats, and protein.

"Carbohydrates and fats are called protein spacers." In other words, their presence in the diet relieves the necessity of tissue proteins being broken down to produce energy. This decreases the "wear and tear" on the body.<sup>3</sup>

When a human subject in the resting state (basal) eats food, there is an increase in the heat produced in the body. This increase is called specific dynamic action. Protein increases the heat by 30 per cent, carbohydrates by 6 per cent, and fats by 4 per cent.

"The extra heat resulting from protein food cannot be employed for production of mechanical or

other forms of energy. It is a waste heat and is simply added to heat produced by the muscular exertion. A diet very rich in protein is therefore unsuited to heavy muscular work."<sup>4</sup>

When fats and carbohydrates are used as the energy source, the extra heat (specific dynamic action) is harnessed in the performance of work. Heat wastage is abolished and the extra energy is incorporated in the energy exchange of exercise.<sup>5</sup>

These scientific facts have been well known in medical and nutritional circles for many years. As far back as 1920, Dr. H. C. Sherman (Columbia University) wrote, "Muscular activity which has such a decided effect in raising energy requirements, has no influence on the amount of protein needed." He found no increase in urea excretion with exercise, showing that protein is not utilized for muscle energy when adequate amounts of fat and carbohydrate are present.<sup>6</sup>

## Improves Endurance

In the early 1900's Dr. Schouteden of Belgium made an interesting endurance test, comparing vegetarians and nonvegetarians. Using a standardized grip meter, he found that the vegetarian group could squeeze an average of 69 units, while the nonvegetarians averaged only 38 units.<sup>7</sup>

Much more recently Professor Per-Olaf Astrand, M.D., a Swedish scientist, used nine trained athletes on stationary bicycles in an intriguing experiment. After several days on a mixed diet (vegetables, fruit, meat), they were allowed to pedal to the point of

exhaustion. The average length of time they pedaled was 114 minutes.

Next they were placed for three days on a high fat and protein diet (meat, milk, and eggs). When instructed to pedal to exhaustion, the three athletes could average only 57 minutes.

After three more days' rest while eating a carbohydrate-rich diet (vegetables, fruit, and cereals), they were allowed to perform a third time. This time they averaged 167 minutes, with several going past the 240-minute mark.

Dr. Astrand concluded, "There seems no doubt that it is proper to exclude protein from consideration as a fuel for working muscle cells. . . . Consumption for several days of a carbohydrate-rich diet will improve the capacity for prolonged exercise. . . . These are the basic facts. Forget the protein myth and the other superstitions."<sup>8</sup>

Coach Rudy Fahl, for more than ten years the organizer-promoter of the annual Pikes Peak Marathon, found that year after year vegetarians received the trophies. He noted that meat eaters had more cramps and did not have the extreme endurance required by the 26-mile, steep trail.<sup>9</sup>

Thus we see science and experience vindicating Ellen White's statement: "It is a mistake to suppose that muscular strength depends on the use of animal food. The needs of the system can be better supplied, and more vigorous health can be enjoyed, without its use. The grains, with fruits, nuts, and vegetables, contain all the nutritive properties necessary to make good blood. These ele-



ments are not so well or so fully supplied by a flesh diet."—*The Ministry of Healing*, p. 316.

### Increases Longevity

Vegetarians live longer. Back in 1864 Mrs. White wrote: "After the flood the people ate largely of animal food. . . . He [God] permitted that long-lived race to eat animal food to shorten their sinful lives. Soon after the flood the race began to rapidly decrease in size, and in length of years."—*Spiritual Gifts*, vol. 4, p. 121 (1864).

Last month's article showed how meat eating contributes significantly to the risk of deaths from heart attacks and cancer—the number one and number two killers in the United States.

A number of research scientists are becoming convinced that feeding a high-protein diet—usually a meat diet—accelerates the growth and maturation process, with the ultimate result of decreased stature and shorter life span.

Dr. M. H. Ross<sup>10</sup> found that rats (whose protein metabolism is very similar to human beings) lived longer on a low-protein, low-calorie diet. Dr. H. C. Sherman added lean meat to the rat diets as an extra protein supplement. These rats grew faster and their life span was shorter.<sup>11</sup>

Dr. Ancel Keyes states: "In the growing animal it is customary to consider the least amount of protein which will allow the maximum growth, but for what else? We usually judge the animal by size and appearance, but seldom by length of life. Longevity is infrequently considered, because

perhaps the small evidence points to an inverse correlation between rate of growth and eventual longevity."<sup>12</sup>

Recent studies done by Dr. U. D. Register at Loma Linda University showed that rats fed the cafeteria (vegetarian) diet plus a meat entree grew faster, reproduced sooner, reached a shorter final size, and died sooner than their paired brothers and sisters fed the cafeteria diet alone.<sup>13</sup>

Preliminary studies on California Seventh-day Adventist men showed them to live 6.2 years longer than their non-Adventist counterparts.<sup>14</sup> Loma Linda University's School of Health has recently been awarded research grants totaling more than \$800,000 to investigate in greater depth this increased longevity and hopefully to demonstrate conclusively the role of vegetarianism in this observed increase of life expectancy.

### Vegetarians Are Healthier

The Spirit of Prophecy has some startling statements about meat eating and disease.

"The liability to take disease is increased tenfold by meat eating."—*Testimonies*, vol. 2, p. 64 (1868).

"Those who use flesh meat . . . prepare the way for disease to fasten upon them."—*Counsels on Diet and Foods*, p. 390 (1903).

"Cancers, tumors, and pulmonary diseases are largely caused by meat eating."—*Ibid.*, p. 383 (1902).

"The animals are diseased, and by partaking of their flesh, we plant the seeds of disease in our own tissue and blood. . . . When we are exposed to prevailing epidemics and contagious diseases,

the system is not in a condition to resist the disease."—*Ibid.*, p. 386 (1896).

Dr. Ernest L. Wynder, president of the American Health Foundation, recently stated: "We believe that a diet high in animal protein and animal fat correlates with a high incidence of colon cancer."<sup>15</sup>

"People living in the areas with a high recorded incidence of carcinoma (cancer) of the colon tend to live on diets containing large amounts of fat and animal protein, whereas those who live in areas with a low incidence of cancer live on largely vegetarian diets (high in fiber) with little fat or animal matter."<sup>16</sup>

The National Cancer Institute (Bethesda, Maryland) recently reported: Currently available geographic data support the association between beef consumption and the occurrence of bowel cancer.<sup>17</sup> (In 1973, 47,000 persons died of cancer of the colon in the U.S.A.—second only to lung cancer as a cause of cancer deaths.)

Dr. Denis P. Burkitt (of the Medical Research Council of Great Britain and for many years a missionary in Central Africa) goes even further in his data to add appendicitis, diverticulitis, ulcerative colitis, and polyps of the large bowel to the diseases that are produced by dietary factors and are absent in vegetarians.<sup>18</sup>

Over one million cases of food poisoning are reported yearly in the United States.<sup>19</sup> Salmonella organisms are responsible in a majority of instances. Meat and poultry products are the usual vehicle of contamination. Vegetarians are rarely bothered by these

seldom fatal, but often incapacitating, illnesses.

We went to some length in last month's article to establish the relationship between meat eating and heart disease—America's number one killer. Only one additional reference will be given here regarding the vegetarian's health advantage. "A vegetarian diet can prevent 90 per cent of our thromboembolic diseases and 97 per cent of our coronary occlusions."<sup>20</sup>

Some recent articles written by Jean Mayer, professor of nutrition at Harvard, for the lay press are worthy of mention here in support of vegetarianism.

"We have the experience of the Seventh-day Adventists, who mainly eat milk products and vegetables. They have been studied very carefully and their health is at least as good if not superior to that of the American people as a whole."<sup>21</sup>

"Exhaustive studies of Seventh-day Adventists, who are ovo-lacto-vegetarians, have repeatedly shown them to be in excellent health."<sup>22</sup>

### Vegetarians Efficient Spenders

Even before the days of high meat prices and meat boycotts, the meat consumer was getting a poor deal. It takes about fourteen times as many acres to raise feed for animals to be used as human food, as to raise plant food that will supply the same protein and calories. Beef, for example, wastes 90 per cent of the plant protein and 96 per cent of the plant calories.<sup>23</sup>

In terms of water needed (of interest to both economists and ecologists), a diet composed of three pounds of bread per day would require 300 gallons of water per day to produce, while a diet of two pounds of bread and one pound of beef would need 2,500 gallons of water a day to produce. It takes about seventeen acres to produce the same amount of animal protein as could be raised on one acre planted in soy beans.<sup>24</sup>

Although compiled in 1962, United States Department of Agriculture statistics help us to compare the relative cost of different nutrients from animal compared to vegetable sources.<sup>25</sup> (See below.)

Many commercial enterprises, for purely economic reasons, are adding vegetable protein and other vegetarian ingredients to their meat products. As laws become more liberal, we can expect to see an ever-increasing amount of "stretching" to keep prices down and to supply the demand of a growing population.

Seventy years ago, Ellen White wrote: "In grains, fruit, vegetables, and nuts are to be found all the food elements that we need. . . . Grains, fruits, nuts and vegetables constitute the diet chosen for us by our Creator. These foods, prepared in as simple and natural a manner as possible, are the most healthful and nourishing. They impart a strength, a power of endurance, and a vigor of intellect, that are not afforded by a more complex and stimulating diet."—*Counsels on Diet and Foods*, p. 363.

Modern science has now given us ample proof to substantiate almost all of God's instruction given us so long ago through Ellen White regarding diet. The rest is "advance information," which, if consistently practiced, cannot help but give us a definite advantage. The added strength and life which will result, should be used to glorify God and to serve Him more efficiently. ✎

### Concluded

<sup>1</sup> Frederick J. Stare and George W. Thorn, "Some Medical Aspects of Protein Foods," *American Journal of Public Health*, vol. 33, 1943, pp. 1444-1450.

<sup>2</sup> Charles H. Best and Norman Burke Taylor, *The Physiological Basis of Medical Practice* (Baltimore: The Williams & Wilkins Co., 1966), 8th Edition, p. 1308.

<sup>3</sup> *Ibid.*, p. 1309.

<sup>4</sup> *Ibid.*, p. 1310.

<sup>5</sup> *Ibid.*, p. 1310 (See interesting tables of energy usage & heat wastage.)

<sup>6</sup> H. C. Sherman, "Protein Requirements of Maintenance in Man," *Journal of Biological Chemistry*, vol. 41, no. 1, January, 1920, p. 97.

<sup>7</sup> "Vegetarian Benefits," *Life and Health Supplement—Vegetarianism*, 1973, p. 17.

<sup>8</sup> Per-Olaf Astrand, "Something Old and Something New . . . Very New," *Nutrition Today*, June, 1968, p. 9.

<sup>9</sup> *Today's Food*, Summer 1966 and Summer 1972.

<sup>10</sup> M. H. Ross, "Protein, Calories and Life Expectancy," *Federal Proceedings*, vol. 18, 1959, p. 1201.

<sup>11</sup> H. C. Sherman, *Chemistry of Food and Nutrition* (New York: The Macmillan Co.).

<sup>12</sup> Ancel Keyes, "Caloric Undernutrition and Starvation, with Notes on Protein Deficiency," *Journal of American Medical Association*, Oct., 1948, p. 500.

<sup>13</sup> U. D. Register, "Are Nonflesh Proteins Adequate?" *The Review and Herald*, Aug. 7, 1958, p. 16.

<sup>14</sup> Frank R. Lemon and Jan W. Kuzma, "The Life Expectancy of Seventh-day Adventists," *The Review and Herald*, Dec. 14, 1967, p. 2.

<sup>15</sup> "Diet and Colon Cancer," *CA—A Cancer Journal for Clinicians*, May-June 1973, 33:3, p. 151.

<sup>16</sup> M. J. Hill, et. al., Bacteriology Dept., Wright-Fleming Institute, St. Mary's Hospital Medical School, London, "Bacteria and Aetiology of Cancer of the Large Bowel," *Lancet*, Jan. 16, 1971, p. 98.

<sup>17</sup> "Beef and Bowel Cancer," *Newsweek*, Feb. 18, 1974, p. 80.

<sup>18</sup> Denis P. Burkitt, M.D., "The Evidence Leaves: We Invite Colon Cancer," *Medical World News*, Aug. 11, 1972, p. 33.

<sup>19</sup> Beatrice Trum Hunter, *Consumer Beware* (New York: Simon & Schuster, 1971), p. 371.

<sup>20</sup> *J.A.M.A.*, Editorial, June 3, 1961, p. 806.

<sup>21</sup> Jean Mayer, "How to Eat Better for Less Money," *U.S. News and World Report*, Aug. 27, 1973, p. 22.

<sup>22</sup> Jean Mayer, "What to Do Until the Guru Goes," *Family Health*, May 1973, p. 48. See also Jean Mayer, "Can Man Live on Vegetables Alone?" *Family Health*, February 1973, p. 33.

<sup>23</sup> *Life and Health—Vegetarianism*, vol. 1, second edition, 1973, pp. 18, 19.

<sup>24</sup> Allan Magie, Ph.D., and Elmer Widmer, Ph.D., "The Real Energy Crisis Is a Cow," *Life and Health*, September, 1973, pp. 19-21.

<sup>25</sup> U.S. Department of Agriculture, "Family Food Plans and Food Costs," *Home Economics Research Report*, No. 20, 1962. See also Stoy Proctor, *Unmeat* (Nashville: Southern Publishing Association).

### ONE DOLLAR WILL BUY

	Vegetable Sources	Animal Sources
Calories:	6,250 calories from flour and cereals	2,250 calories from dairy products
Protein:	275 grams from beans (dried), peas, and nuts	100 grams from meat, poultry, and fish
Iron:	65 milligrams from beans (dried), peas, and nuts	15 milligrams from meat, poultry, and fish
Vitamin A:	173,500 IU from green, leafy vegetables	8,000 from dairy products
Vitamin C:	825 milligrams from citrus fruit	none from meat, poultry, or fish
Thiamine:	5 milligrams from potatoes and cereals	1 milligram from meat, poultry, and fish
Niacin:	80 milligrams from beans (dried), peas, and nuts	21 milligrams from meat, poultry, and fish