The Re-appraisal of Today's Nutrition

W. Coda Martin, M.D.
New York, N. Y.

We are faced with a new and serious medical problem which is a challenge to the medical profession. The health of the nation is in a critical stage of degeneration and to meet this challenge it will take courage, determination, and most of all, a willingness to accept a new approach to the treatment and prevention of these degenerative diseases.

Since the beginning of modern medicine around 1900, we have concentrated our research on the control of acute infectious diseases, which were predominant ones of the time. A look at recent mortality statistics readily reveals the fact that our efforts have been successful.

Infectious diseases are due to a specific cause that is, an invasion of the human host by some form of bacteria or virus organisms. Methods of combating these diseases was obvious, although the task in carrying out the prescribed program was often difficult.

Three approaches used in the control of infectious diseases are as follows:

1. Prevent the organism from reaching the body: this was accomplished by our modern methods of sanitation which has reached a climax of perfection here in the United States.

2. Destruction of the organisms after they invaded the human host. Our present day broad-scope antibiotics have performed miracles in this field.

3. Specific vaccines to build up protective antibodies against various types of organisms. The effectiveness of this measure is well-known.

As the result of these protective measures the life expectancy from birth since 1900 has increased 22 years. In 1900 life expectancy at birth was 47 years. Today it is 69 years. This is an accomplishment that we can refer to with pride.

As we live in a dynamic and changing world we cannot rest on past accomplishment. While we were devoting our energies to the control of acute infectious disease the population was growing older and rapidly developing degenerative diseases. We are now faced with this new medical problem. Mortality statistics for infectious disease in the United States today are the best in the world, while for coronary thrombosis they are the worst. Coronary thrombosis in American men between the ages of 45 and 60 years are two to three times as high as in England, France, Germany and Italy. In fact, the life expectancy of the middle age person in the United States today has increased only two years since 1900 and if the trend of degenerative disease continues, this figure will soon be lower. In fact, today nearly 50% of the population has some form of chronic disease and of the remainder there are only 13% who are free of some type of physical defects. This is an astounding health report for such a prosperous nation. It can be said that the health of the nation does not depend on its financial status but only on its nutritional state. Are we saving the lives of our children only to allow them to grow to middle age and die of a degenerative disease?

As the term implies these diseases of today are due to a deterioration of the cells and organs of the body. This is strictly an internal reaction. Dr. Virchow, the father of modern pathology stated: "Disease has its origin within the cell." Dr. Otto Warburg has confirmed this theory in a recent report on his concept of the origin of cancer cells. He stated that "There is only one common cause into which all other causes of cancer merge, the irreversible injury of cellular respiration." This concept of the cause of cancer is of great importance today, as it is estimated that one out of every three people living in the United States will develop cancer before he dies.

This theory closely follows the modern concept of cellular changes in degenerative diseases. The first change that occurs, which is not detectable, is a biochemical change within the cell. If this is not corrected, the cellular function will be altered, or if a group of cells are involved there will be a change in the function of an organ or gland. If these changes continue a definite lesion develops which is known as a pathological condition. In the early stages the reaction may be reversed, but in the latter stage it is irreversible. It is evident then that we must find methods of detecting these early biochemical changes, so that we can correct the cellular metabolism before it reaches an irreversible stage if we hope to achieve any effective clinical results.

What produces these biochemical changes or the interference with cellular respiration that results in deterioration of the cells of the body? There are numerous and complicated causes which may produce changes in the biochemistry of the cells, but for practical purposes they can be classified under the following categories:

1. Inherited factors, such as constitutional tendencies to certain diseases.

2. Environmental factors, such as climatic changes as well as economic and emotional problems which produce a stress syndrome.

These two causes are of secondary importance. The two major problems which we are faced with today are (1) chemical and (2) nutritional factors.

What are some of the chemical poisons with which we come into contact frequently or consume in or on our foods daily?

Dr. Lewis Danziger in his paper on anoxia (Diseases of the Nervous System Vol. VI, No. 12, December, 1945) listed the following chemicals which will produce anoxia in the cells of the body.

1. Nicotine—there has been a 2% increase in consumption of cigarettes in the past year, in spite of the fact that research has shown there is a direct relationship between smoking and cancer of the lungs.

2. Alcohol—75% of the male population of the United States are social drinkers and there are 4,000,000 alcoholic addicts.

3. Barbiturates — unlimited amounts consumed daily by a large portion of the population. (Over 4,000,000 pounds of barbiturates are sold annually in the United States.)

4. Salicylic acid—sales of aspirin was up 9% last year. That means about five million pounds of aspirin were consumed during the year.

Presented at the Annual Meeting of the Friends of the Land, at Chicago, Illinois, June 26, 1956.

These are a few of the chemicals which are more generally used by the public. There are many in the industrial field, but these are confined to a specific group of workers and are not important to the population as a whole.

Now we come to a group of relatively new chemicals that are used in unprecedented amounts. These are the chlorinated hydrocarbons and the organic phosphates which are used as insecticide sprays on all of our fruits and vegetables today.

There is no question about the fact that foods available today do contain a residue of DDT as well as many other insecticide chemicals. A report recently released by the U. S. Public Health Service stated that of meals examined in restaurants and institutions none were free of DDT. On January 6, 1956, the New York Times reported that two freight cars loaded with 30,816 heads of lettuce contaminated by insecticide chemicals were seized by order of the Federal Food and Drug Administration. This was only a spot check. Every car load of vegetables and fruit entering our cities today are contaminated with these chemicals. The Miller Bill, passed by Congress last year, established tolerance levels for these chemicals on our foods. This was passed with the belief that it would protect the consuming public. If this law is enforced it will protect the public against acute intoxication, but does it give a long-range protection? It is obvious that the tolerance level of any poisonous chemical food should be "zero."

Chemical analysis of human fat tissues reveals that every man, woman and child in the United States today has a retention of DDT in his tissues. As this chemical is accumulative, it is reasonable to assume that the amount will gradually increase as we continue to consume contaminated food. Today there is no other food available to the general public.

A report from the Department of Agricultural Chemistry, Oregon State Agricultural Experimental Station, reveals that small amounts of DDT inhibits the enzyme reactions necessary for cellular oxidation. According to this finding, the long-range consequences of this reaction on the health of the body is no longer a mystery. According to Dr. Warburg's theory, this chemical interference of cellular respiration from childhood will inevitably lead to early deterioration of the body in the form of a degenerative disease or cancer. He stressed the point that frequent small doses of respiratory poisons are more dangerous than a large single dose for the reason that a large dose of poison will probably kill the cell immediately, while with a small dose the cell will survive and become abnormal or even carcinogenic. In other words, each of us has the potentials for cancer stored in our bodies today: in the form of these chemical insecticides. It is only a matter of time until the cells will change from normal cells to cancer cells due to impaired cellular respiration. The time lapse of possibly 20 or 30 years may be insignificant to an older person—but to a child—consuming these cellular anoxic chemicals from birth it becomes very significant as far as his life expectancy is concerned.

What influence does today's modern "food technology" have on cellular respiration? Unfortunately there are only a few official standards for the nutritional quality of food today. Most of the tests are based on quantity produced per acre rather than quality. We also have a tendency to identify quality with "purity" (U. S. Chemically Pure) achieved by refinement. This is alright for chemicals, but not for foods. We must use our scientific and technological knowledge to develop and produce foods that contain the essential nutritive elements. This can be done if we keep our minds directed toward the end result—optimum health—instead of toward short-range economics. In fact, insecticides are referred to by the Agriculture Department as economic poisons. Does this mean that it is more economical to poison the food than to grow quality food?

In past years, research in the field of nutrition has advanced rapidly and the scientists have given us much information on the action of nutrition and chemistry of the body and cellular metabolism. This scientific endeavor to increase our knowledge of nutrition is necessary if we are to penetrate the unknown frontiers of body metabolism.

In the field of clinical nutrition, we are aware of the marked increase in degenerative diseases. We must do something about them *now* and start the best nutritional therapy that is available, with the hope that scientists will give us more information about its physiological action later. In nutrition, we must rely on the principle of wholeness and the use of complete foods. There is a grave risk involved in the policy of *fragmentation* and *substitution.*

Food of high quality and wholeness means that the foods used in the diet must be complete in all their essential elements. There can be no substitution. Any alteration of any one of the essential nutritive factors by removal or processing in their preparation, will in time produce changes in the architecture of the tissues.

It has recently been shown that withholding one of the amino acids from the meal for a period of only three hours will interfere with the normal protein metabolism of the body.

Such findings reveal the delicate balance of the chemical and enzymatic action in the body metabolism. All the essential elements of the body for ideal nutrition must be in harmonious balance and ready for immediate utilization. There also must be a certain amount of fresh raw food which retains the active life forces, or whatever one wishes to call that radiant energy present in fresh living food. Without this factor, the human body cannot long survive.

Sufficient evidence is available from the reports of Dr. William Albrecht, and others, that foods grown on depleted soil are not only deficient in certain minerals and low in vitamins, but also deficient in high quality proteins. It has been shown by feeding tests that such depleted food will cause degenerative diseases in cattle, as well as physical deformities in the offspring. Analysis reveals that there is an increase in the two important amino acids, lysine and tryptophane, in foods grown on fertile soil. Unpublished research data, indicates that in this quality protein the amino acids are more stable. Whereas the amino acids from unfertile soil form an abnormal protein structure. This abnormal structure can be passed from the food to the human organism and weaken the architectural structure of the body.

How does this influence our health today? Analysis of the soil in the United States reveals that only the prairie states — or mid-continental area have the fertility necessary to produce high quality protein. This means that approximately two-thirds of our soil is deficient in minerals and organic matter and is not fertile. Dr. E. E. Pfeiffer, soil analyst, esti-

(Continued on Page 13)

Martin—

(Continued from Page 7)

mates that the average organic content of our soils today is only 1.5% —this is the critical level below which the soil is no longer fertile. When the organic matter disappears, the soil becomes a desert. Dust storms show that the remaining top soil is rapidly vanishing.

Add to this low quality food the following defects and the picture becomes even more discouraging:

1. Further depletion of this low quality food by refinement and processing, removing essential vitamins and minerals. Examples—white flour, polished rice, white sugar and most of the breakfast cereals. Vitamin E, the only natural anti-coagulent, is also removed. This may be an important factor in the increased incidence of coronary thrombosis today.

2. The residue on all foods of toxic chemical insecticides—as previously discussed.

3. The continued extensive use of carcinogenic dyes for color control of certain foods for appearance. Three of these dyes were banned only last year by the F. D. A.

4. The addition of stilbestrol and antibiotics to the food of animals used for human consumption which, I feel, has not had sufficient long range nutritional studies. A recent report reveals that 50% of all cattle going to market were fed stilbestrol and by the end of this year 100% of the beef cattle will be given this chemical. It has been shown that small repeated doses of stilbestrol will produce cancer in test animals. These same farmers will not feed stilbestrol to their dairy and stock cattle.

5. Surveys reveal that approximately 50% of the people in the United States do not eat the correct food, as shown by the following imbalanced nutritional pattern.

Over-consumption of fat and carbohydrates which has resulted in 32 million overweight people.

National sugar consumption is 100 pounds per year per person, or an average of 500 calories per day. These are known as empty calories. They cannot be properly metabolised in the body because the required vitamins and minerals catalyst were removed during refinement. This interference with the enzyme system of metabolism results in the production of toxic metabolites. Tests have shown that these metabolites from incomplete carbohydrate metabolism interferes with cellular oxidation, which results in the formation of abnormal cells. This is the beginning of tissue pathology. Official figures from the U. S. Department of Commerce show that most Americans consume from 100 to 145 grams of fat per day, or approximately 500 more non-vital calories. These are figures on the sale of commercial cooking fats only, the majority of which are hydrogenated and highly saturated fats. Recently, Kinsell and his associates have shown that the fall in serum lipids is related directly to the degree of unsaturated fats consumed rather than to its origin from vegetable and animal sources. Twenty-five grams of normal fat will supply all the necessary essential fatty acids. The top limit for protection of health should be 50 grams. In other words, we are consuming two to three times the amount of fat that is necessary for normal health and in the form that is not readily utilized by the body. There is convincing evidence that the consumption of this amount and type of fat is directly related to the increase in atherosclerosis and coronary thrombosis in the United States today.

It is not the effect of any one of these food faults which causes deterioration of the cells, but the sum total of all the nutritional defects repeated daily over a number of years.

The prospects for good health today and in the future under the present nutritional picture cannot, by any stretch of the imagination, be called good. We are paying a high price for having forgotten that we humans are an integral part of nature. I believe that we can all agree there is a great and urgent need for re-appraisal of the nutritional problem.

We physicians, as well as the general public, need to re-appraise our concept of nutrition. We must accept the dynamic concept of *nutrition from the soil to the cells* of the body. It is now recognized that any defect in the soil will sooner or later be reflected in the quality of the crops and ultimately on the health of the animals and humans. We must establish new standards for quality foods. We can no longer depend entirely on the medium of chemistry and quantitative chemical analysis. We must in some way establish tests for the presence of the life giving factors in foods which are beyond known chemical test. Dr. Albrecht states that until such tests are available we must depend on feeding tests to determine these unknown biological factors.

There are many approaches to prevention and treatment of chronic degenerative diseases, but there appears to be one common denominator as the basic cause of degenerative diseases. That one factor is malnutrition. This means over-nutrition as well as under-nutrition. When either is present, the body does not receive an adequate balance of nutritional factors to maintain normal cell metabolism, consequently, catabolism, or the breaking down process becomes predominant, and deterioration of the tissue is the end result.

Unless these facts are better understood and applied to our present day nutritional problems we as physicians and nutritionists are merely touching the surface of the overall concept *of totality*. Today, there is no such thing as good nutrition in this total concept. Quality food, grown on fertile soil, free from chemical sprays, and without refinement is not available to the public.

This explanation of the physiology of degenerative disease with its nutritional background is probably an over-simplification of a complex problem, but I present this *simplified formula* as a new concept that is practicable for every day application by physicians in their practice, as well as lay people in the choice and preparation of their daily meals. This is something we can accomplish now —while we wait for the scientist to discover some of the more basic chemical reactions within the cells in their future research. This is our challenge. What will we do about it?

This is a matter of survival. Many nations before us have perished by the soil rather than the sword. A recent book "Civilization and the Soil" by Dale and Carter, states that a civilization will last just as long as the fertility of the soil that supports it.

A nation of people with weak bodies and weak minds has neither the physical strength nor the moral courage to survive. We are now at a crtical stage of degeneration. I wish to congratulate the members of the Friends of the Land for their foresight and courage as leaders of this total concept of nutrition. The way

(Continued on Page 14)

Martin—

(Continued from Page 13)

to national survival is to be found by following the principles established by this organization, such as conservation of the soil and forest, growing quality food free of chemicals and promoting the principles of good nutrition.

Those people that conserve the soil and the natural resources of a nation for the next generation can be called their brothers' keepers, for their interest exceeds personal economic gains. If these principles could be established on a national and an international scale we would be a long way on the road to the ultimate goal of peace on earth and the brotherhood of man.

Reprinted from
NATURAL FOOD AND FARMING MAGAZINE
Official Publication of
Natural Food Associates, Inc.

Vol. 3, No. 4 July 1956

N. F. A. No. 3-4-8

Natural Food and Farming is a monthly publication, owned and published by Natural Food Associates.

MEMBERSHIP
$4.00 per year
Which includes Natural Food and Farming

Address editorial material to Natural Food Associates, Atlanta, Texas.

Advertising Office, Atlanta, Texas, Thomas Lavin, Executive Secretary.

Rates On Request.

Natural Food and Farming magazine is the official publication of the Natural Food Associates, a non-profit organization. Published monthly at National NFA office, Atlanta, Texas