

Torah and Science

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MYSTICAL JUDAISM'S PERSPECTIVE ON NUTRITION

from Harav Yitzchak Ginsburgh¹

How important is food in your life? Before you answer, think of two American holydays: Independence Day and Thanksgiving Day. What comes to mind? No matter where you live, chances are that meals are the centerpieces of these special days. To most of us, food is more than just nourishment—it is an important part of our culture. Human societies throughout the world organize meetings and family gatherings around food.

Food and Energy

Have you ever wondered why you need to eat food? The most obvious answer is to obtain energy. You need energy to climb stairs, lift books, run, and even to think. Just as a car needs gasoline, your body needs food for all that work, and food is your fuel. Cells convert the chemical energy stored in the sugar glucose and other molecules into ATP.

Let us look at the question, “why you need to eat food?” from a deeper perspective.

Most people (unfortunately) go about their daily routine of providing for their bodies what nature requires – eating, drinking, sleeping etc. – without paying much attention to what these activities and functions mean on a spiritual plane. The questions that we need to ask are: Why did God create me this way? Why do I have to eat in order to obtain energy?

The Torah teaches us that, “Man does not live on bread alone, but rather man lives on the word of the mouth of God.”² In the Torah, the word “bread” refers to food in general, not just to bread. What the above verse is teaching us is that within the “bread” we eat is invested Divine life-force, and, moreover, that it is important for us to know that this life-force is coming directly from God, the Creator and Sustainer of all life (and, indeed, of all reality).

If we eat our food with this realization in mind, we can extract the Divine life-force or Divine spark that is the inner essence of the food. As a result, the level of nutrition—both physical as well as cognitive and spiritual nutrition—that we gain from the food will be much greater than if we eat without this realization in mind.

The energy available in food can be measured in a surprisingly simple way—by burning the food! When food is burned, the energy content of the food is converted to heat,

which is measured in terms of calories. The amount of heat needed to raise the temperature of 1 gram of water by 1 degree Celsius is 1 calorie. Scientists refer to the energy stored in food as dietary Calories with a capital C. One Calorie is equal to 1000 calories, or 1 kilocalorie (kcal).

By burning food, the energy content is converted to heat. In the Jewish mindset, the burning of food immediately takes us to the Holy Temple in Jerusalem, where every day, numerous sacrifices were burnt on the altar. The burning of a sacrifice would result in the elevation of the energy trapped in the sacrifice to a higher spiritual plane, dedicating it to holiness and purity.

Though the Temple has not yet been rebuilt, the sages reveal that even today, every table on which we eat symbolizes the altar in the Temple upon which the sacrifices were burnt. Knowing that our table is symbolic of the altar and that the food we consume releases energy in a way similar to a sacrifice adds a new dimension to our meals. Whenever we eat, we should have in mind that we are raising the energy of the food in offering to God, i.e., that we intend to use the energy that we gain from the food to serve God.

Only kosher food releases its energy in a manner conducive to serving God, raising our consciousness level (if we so intend when eating) such that we can recognize God's Presence in our lives and devote our lives to His service.

In Hebrew, the language of creation, the word for "life," or "life-force," *chaim* is related to the word for "heat," *chom*. The Ba'al Shem Tov used to place his hand on the heart of a child and bless him: "Be a warm Jew." In the Temple, fire would descend from heaven to consume the sacrifices offered on the altar. Likewise, when eating we should have in mind to connect with the essence of this holy fire. In other words, when you connect with this fire that is always descending from heaven to grant life below, the result will be a warming of the heart, making it burn with desire to serve God. The Ba'al Shem Tov used to send his disciples to observe how simple Jews eat with the pure, innate intention of "burning up" the energy in the food for God.

The energy needs of an average-sized teenager are about 2200 Calories per day for females and about 2800 Calories per day for males. If you engage in vigorous physical activity, however, your needs may be higher.

Chemical pathways in your body's cells can extract energy from almost any type of food. Why then does it matter which foods you eat? Although most of the food you eat is used as fuel, a certain amount of food you eat has other important functions. Food supplies the raw materials used to build and repair body tissues. Some of these raw materials are used to manufacture new biomolecules. These include the proteins that regulate cellular reactions, the phospholipids in cell membranes, and DNA—your genetic material.

Food also contains at least 45 substances that the body needs but cannot manufacture.

The science of nutrition—the study of food and its effects on the body—tries to determine how to help the body meet all of its various needs. Based on their research, nutritionists recommend balanced diets that include many different types of food. They also plan diets for people with particular needs, such as diabetics.

Nutrients

Nutrients are substances in food that supply the energy and raw materials your body uses for growth, repair, and maintenance. **The nutrients that the body needs are water, carbohydrates, fats, proteins, vitamins, and minerals.**

The Torah classifies the basic needs of every human being into the following five categories:

- ♦ Air
- ♦ Water
- ♦ Food
- ♦ Clothing
- ♦ Shelter

These five categories correspond to various aspects of the Torah's mystical model of our psyche. Let us see how:

When healthy, we are generally not conscious of our breathing **air**. Thus, air corresponds to our super-conscious faculty called the *sefirah* of crown. **Water** is likened to our faculty (or *sefirah*) of wisdom, which is responsible for providing us with new insights. Like water, which flows downhill, from a high place to a low place, the insights of our wisdom flow down from their source in our super-conscious crown. Whereas air and water represent relatively unconscious or autonomous processes in the psyche, **food** represents ingestion and integration of external nutrients into our internal being. In the psyche, the integration of spiritual food, meaning the teachings of the Torah, is achieved by the faculty (or *sefirah*) of understanding. **Clothing** represents the emotive attributes of the psyche. Finally, **shelter**, that is, our home, represents our social nature. As human beings, we are family and community oriented. This requires us to bring out our potential for leadership, which is associated with our faculty (or *sefirah*) of kingdom.

It is customary to picture such a correspondence in chart form, based on the traditional way of organizing the soul's faculties:

	crown	
	air	
understanding		wisdom
food		water
	emotive faculties	
	clothing	
	kingdom	
	shelter	

We can now recognize that among the six nutrients required by the body, water is a separate category (it corresponds to wisdom) from the other five (which correspond to understanding). Still, all six are necessary for the body's healthy functioning. In Kabbalah, we are taught that wisdom and understanding constitute an inseparable pair, which is why water and the other five nutrients are listed together. Wisdom is also known as the father principle (water) and understanding as the mother principle (the other five nutrients) of the psyche.

While the father principle is essentially singular, the mother principle is described as complex and composed of five components. Wisdom and understanding (or the father and mother principles) correspond to the first two letters, *yud* (י) and *hei* (ה) of God's essential Name, *Havayah* (also known as the Tetragrammaton). The letter *yud* is described as a dimensionless point alluding to wisdom being essentially singular and corresponding to water as a category in itself. The numerical value of the letter *hei* is 5, thus providing us with another allusion to the five nutrients that correspond to understanding and the mother principle.

In Kabbalah, the five components of the mother principle, or understanding, subdivide into 3 and 2. The five nutrients subdivide in a similar way: carbohydrates, proteins, and fats form one subdivision; vitamins and the minerals form the second.

Water The most important nutrient is water. Every cell in the human body needs water because many of the body's processes, including chemical reactions, take place in water. Water makes up the bulk of the blood, lymph, and other body fluids. On hot days, or when you take part in strenuous exercise, sweat glands remove water from your tissues and release it as sweat in the surface of your body. As the water in sweat evaporates, it cools the body. In this way, sweating helps maintain homeostasis. Water vapor is also lost from the body with every breath you exhale and in urine.

Wisdom (water) is referred to as "the point [that is] present uniformly [throughout the entire body]." Every cell in the body needs water. Water is the source of life; in the Torah, spring waters are called "living waters."³ Spiritually, wisdom is the source of life,

as in the verse "wisdom gives life," and so the study of Torah (Divine wisdom) is likened to water. In the words of the sages, "water refers to the Torah."⁴

Humans need to drink at least 1 liter of water each day. If enough water is not taken in to replace what is lost, dehydration can result. This condition leads to problems with the circulatory, respiratory and nervous systems. Drinking plenty of clean water is one of the best things you can do to help keep your body healthy.

Carbohydrates Simple and complex carbohydrates are the main source of energy for the body. The sugars found in fruits, honey, and sugar cane are simple carbohydrates, or monosaccharides and disaccharides. The starches found in grains, potatoes and vegetables are complex carbohydrates, or polysaccharides. Starches are broken down by the digestive system into simple sugars. These molecules are absorbed into the bloodstream and carried to cells throughout the body. Sugars that are not immediately used to supply energy are converted into the complex carbohydrate glycogen, which is stored in the liver and in skeletal muscles.

Many foods contain the complex carbohydrate cellulose that is often called fiber. Although the human digestive system cannot break cellulose, you need fiber in your diet. The bulk supplied by fiber helps muscles to keep food and wastes moving through your digestive and excretory systems. Foods such as whole-grain breads, bran, and many fruits and vegetables are rich in fiber.

As mentioned, the five nutrients (carbohydrates, proteins, fats, vitamins, and minerals) correspond to the source of the five emotive energies inherent in the *sefirah* of understanding (the mother principle). The five are:

- ♦ (1) love, (2) fear, and (3) compassion—the three primary emotive energies, and
- ♦ (4) confidence and (5) sincerity—the two secondary emotive energies.

Let us picture the correspondence between the five nutrients and the five sources of the emotive energies in chart form:

fear proteins	love carbohydrates
compassion fats	
sincerity minerals	confidence vitamins

Carbohydrates, commonly known as sugars (sweets), correspond to the source of the emotive energy of love inherent in understanding. There are two types of love:

- ♦ intellectual love (attraction that is aroused by the intellectual contemplation of an object worthy to love) and
- ♦ natural love (innate love that arouses naturally, spontaneously and without contemplation).

These two love-types correspond to the simple carbohydrates and the complex carbohydrates:

Intellectual love corresponds to complex carbohydrates.

Natural love corresponds to simple carbohydrates.

Fats Fats, or lipids, are an important part of a healthy diet. Fats are formed from fatty acids and glycerol. Your body needs certain fatty acids, called essential fatty acids, to produce cell membranes, myelin sheaths, and certain hormones. Fatty acids also help the body absorb fat-soluble vitamins. When a person eats more food than is needed, the body stores the extra energy as fat. Deposits of fat protect body organs and insulate the body.

Based on the structure of their fatty acid chains, fats are classified as saturated or unsaturated. When there are only single bonds between the carbon atoms in the fatty acids, each carbon atom has the maximum number of hydrogen atoms and the fat is said to be saturated. Most saturated fats are solid at room temperature—including butter and other animal fats.

Unsaturated fats have at least one double bond in a fatty acid chain. Unsaturated fats are usually liquid at room temperature. Because many vegetable oils contain more than one double bond, they are called polyunsaturated. Figure 38-4 shows foods that contain both saturated and unsaturated fats.

People often consume more fat than they actually need. The American Heart Association recommends a diet with a maximum of 30 percent of Calories from fat, of which only 10 percent should be from saturated fats. The health consequences of a diet high in fat are serious. They include an increased risk of high blood pressure, heart disease, obesity, and diabetes.

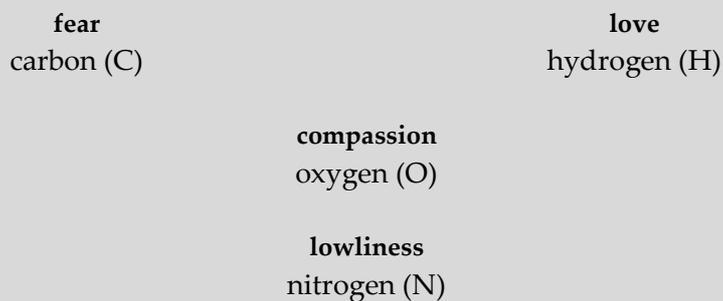
Fats correspond to the source of the emotive energy of compassion inherent in understanding.

In Kabbalah, compassion is referred to as “the [torso of the] body,” which is either fat or slim. In Hebrew, the word for “fat” is cognate to the word for “oil.” Interestingly, because of this, a “fat body” is usually an idiom implying a healthy, or, “well oiled” body. Thus, caring for one’s health is akin to having compassion for one’s body. Still, it is important to note that too much concern for one’s physical health, i.e., too much compassion for the body translates into too much fat! If an individual is not conscious of

his or her real purpose in life, over-attention to the body may lead to an obsessive concern for health and result in the very opposite of good health!

Saturated fats are usually solid at room temperature while unsaturated fats are usually liquid. In Kabbalah, saturation relates to the presence of the faculty of knowledge within compassion. Such saturation translates in practice into a keen sense of knowing toward whom one should express compassion and how to express that compassion. The more saturated (meaning, the more knowledge is present in one's compassion), the more solidified one's feeling and implementation of compassion.

There is a Kabbalistic model that relates the four most basic atomic elements with the emotive faculties. Let us draw this model in its traditional format:



In Kabbalah, it is the faculty of knowledge (graphically situated just above and between love and fear) that is the source and which binds love and fear. Using this model we can also write the equivalent statement: knowledge is what binds hydrogen and carbon atoms.

Proteins Proteins have a wide variety of roles in the body. Proteins supply raw material for growth and repair of structures such as skin and muscle. Proteins have regulatory and transport functions. For example, the hormone insulin is a protein that regulates the level of sugar in the blood. Hemoglobin, a protein found in blood, helps the blood transport oxygen.

Proteins are polymers of amino acids. The body is able to synthesize only 12 of the 20 amino acids used to make proteins. The other 8, which are listed in Figure 8-5, are called essential amino acids. Essential amino acids must be obtained from the food that you eat. Meat, fish, eggs, and milk generally contain all 8 essential amino acids. Foods derived from plants, such as grains and beans, do not. People who don't eat animal products must eat a combination of plant foods, such as beans and rice, to obtain all of the essential amino acids.

Proteins correspond to the source of the emotive energy of fear inherent in understanding.

Somewhat surprisingly, psychologically and spiritually, fear is manifest in the psyche as might. The explanation for this is that a person's might represents the strength necessary to face his fears and to overcome the object or objects of fear. On the physical plane, in the body, might is manifest as muscular strength, which comes from proteins.

Proteins have regulatory functions. For example, the hormone insulin is a protein that regulates the level of sugar in the blood. In Kabbalah, we are taught that fear also has a regulatory function. Fear regulates love (just as with regard to too much compassion, too much love, or unregulated love, may have negative results).

As noted, proteins are polymers of amino acids. In general, the spiritual psychological equivalents of acids derive from the emotive energy of fear/might in the human psyche.

Vitamins If you think of carbohydrates, fats, and proteins as the fuel of an automobile, then vitamins are the ignition. Vitamins are organic molecules that help regulate body processes, often working with enzymes. Most vitamins must be obtained from food. However, the bacteria that live in the digestive tract are able to synthesize vitamin K. The skin is able to synthesize vitamin D when exposed to sunlight. A diet lacking certain vitamins can have serious, even fatal consequences.

There are two types of vitamins: fat-soluble and water-soluble. The fat-soluble vitamins A, D, E, and K can be stored in the fatty tissues of the body. The body can build up small stores of these vitamins for future use.

The water-soluble vitamins, include vitamin C and the B vitamins, dissolve in water and cannot be stored in the body. Therefore, they should be included in the foods you eat each day. Eating a diet containing a variety of food will supply the daily vitamin needs of nearly everyone.

Food stores and pharmacies sell vitamin supplements. Taking extra-large doses of vitamin supplements does not benefit the body; and, in some cases, it may cause real harm. Excessive amounts of vitamins A, D, E, and K can be toxic.

Vitamins correspond to the source of the emotive energy of confidence inherent in understanding.

Vitamins are organic molecules, in contrast to minerals, which are inorganic nutrients, as we shall explain. Minerals correspond to the source of the emotive energy of sincerity. In Kabbalah, confidence and sincerity are described as two sides of one coin.⁵ Indeed, like confidence and sincerity, their psychological counterparts, vitamins and minerals work together as two sides of one coin.

Let us redraw the two models we have been discussing in one composite chart:

understanding
other nutrients

wisdom
water

might (fear)
proteins

loving-kindness (love)
carbohydrates

beauty (compassion)
fats

acknowledgment (sincerity)
minerals

victory (confidence)
vitamins

In this composite chart, we clearly see that vitamins (the *sefirah* of victory) are situated at the bottom end of the right axis, which begins with water. Following the normative order of the *sefirot*, vitamins (victory) follow fats (beauty). So vitamins relate to both water and to fats. This is the Kabbalistic source for why there are two types of vitamins, fat-soluble and water-soluble.

But, now let us see how the Kabbalistic analysis interprets these two types of vitamins. Psychologically, the fat-soluble vitamins represent confidence as it is based on the experience of compassion. In other words, one type of self-confidence is the product of my experience of God as always near me because of His mercy towards me. In this respect, self-confidence is warranted as God is always eager to give us the power to succeed in achieving our life goals.

In contrast, water-soluble vitamins represent total reliance and confidence in God, our Father in Heaven (remember that water corresponds to wisdom, which is also known as the father principle). Water nurtures confidence, but not a feeling of self-confidence. Indeed, here too the physical plane mirrors the spiritual/psychological plane, because excessive amounts of the fat-soluble vitamins, just like overt self-confidence, can be toxic.

Minerals Inorganic nutrients that the body needs, usually in small amounts, are called minerals. Some examples of minerals are calcium, iron and magnesium. Calcium is a major component of bones and teeth; and iron is needed to make hemoglobin, the oxygen-carrying protein in red blood cells. Calcium, sodium and potassium are required for the normal function of nerves.

Although the body does not metabolize the minerals it takes in, it does lose many of them in sweat, urine, and other waste products. How are these important chemicals replaced? Many of these elements are found in the living tissues of plants and other animals. By eating a variety of foods, you can meet your daily requirements of minerals.

Minerals correspond to the source of the emotive energy of sincerity inherent in understanding.

Sincerity implies simplicity, in our context alluding to simple, inorganic chemical elements necessary for our bodies to function properly. As mentioned above, confidence and sincerity function together as two partners. In Kabbalah, they are depicted as two legs, neither of which, when walking, can function without the other.

One of the most important examples of a mineral necessary for the body to function is iron, needed to make hemoglobin, the oxygen-carrying protein in red blood cells. The blood flow, which carries oxygen, the “breath of life,” to all of the body’s cells is symbolized in Kabbalah by physiological walking or traveling. It is controlled by the psychological power of sincerity.

Nutrition and a Balanced Diet

It is not an easy task to figure out the balance of nutrients for the human diet, but nutritionists have tried to do exactly that. The result is the Food Guide Pyramid. The Food Guide Pyramid classifies food in six groups. It also indicates how many servings from each group should be eaten every day to maintain a healthy diet. Foods rich in complex carbohydrates are the base of the pyramid. At the top of the pyramid are foods such as fats and sweets, which should be used sparingly. Some foods in other groups also contain fats and sweets so you should keep that in mind when choosing foods from these foods. The basic idea behind the pyramid is sound and simple—you should eat a variety of foods each day and limit your intake of fatty, sugary foods.

Food labels can also be used to choose healthful foods. A food label provides some general information about nutrition, listing the Daily Values and the Calories per gram of protein, carbohydrates, and fats. The daily value shows you how the particular food fits into the overall diet. Keep in mind that daily values are based on a 2000-Calorie diet. Nutrients needs are affected by age, gender and lifestyle. Rapidly growing adolescents and other groups of people need more nutrients than the daily values indicate.

When choosing foods, you should use the information on food labels to compare similar foods on the basis of their proportion of nutrients to Calories. When you choose a food, it should be high in nutrition and low in Calories.

Let us now see how the basic rules for a healthy physical diet translate into guides for a healthy spiritual life. As we saw above, foods rich in complex carbohydrates represent intellectually inspired love (for both God and mankind). Just as complex carbohydrates serve as the base of our physical diet, intellectually inspired love, derived from in-depth study of the Torah and meditative prayer form the basis of a healthy spiritual and religious life.

One should limit one's intake of fatty, sugary foods. Likewise, as explained above, too much unregulated love (sugary foods) or compassion (fats) for one's self may be negative for one's overall well-being.

Of course, the energy released from the food that we eat will help us ascend in our service of God and mature in character only if the food is kosher according to the laws of the Torah. Non-kosher food nurtures negative character traits, preventing us from serving our Creator with humility and joy.

A healthy body requires a healthy soul—the two are totally interdependent. In Hebrew, the initials of "body" (*guf*) and "soul" (*neshamah*) spell the word for "garden" (*gan*). A kosher, well balanced diet, together with proper, Divinely oriented consciousness, brings us back to the unadulterated state of the Garden of Eden, where God placed us before the primordial sin of eating that which G-d had forbidden. Just as mankind was exiled from the Edenic state because of choosing to eat unwisely, so our return to the Edenic state depends on our most basic drive: our need to eat.

¹. Regular font face is from *Biology* by Miller and Levine (Prentice Hall), pp. 971-6, a common high school textbook used in the US. Text in boxes was written by Harav Yitzchak Ginsburgh.

². Deuteronomy 8:3.

³. See Genesis 26:19.

⁴. *Bava Kama* 82a.

⁵. Confidence is the inner aspect of the *sefirah* of victory, while sincerity is the inner aspect of the *sefirah* of acknowledgment. These two *sefirot* are described in the *Zohar* as two halves of one body.