

Sugar – The Sweet Addiction

The Unheeded Consequences of Sugar and Sugar Consumption

by

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Over the last few years sugar has been increasingly blamed as the cause of various illnesses. Until recently the only two accepted truths healthwise about sugar were that diabetics should not eat it because they cannot adequately metabolize it, and that sugar promotes tooth decay. Additionally it has been written in numerous publications¹ that sugar is a pathogenic factor in triggering nearly every illness and can be the cause of an illness worsening. Dr. M.O. Bruker has pointed out repeatedly in many publications in the German speaking world that refined sugar can not only cause illnesses and their worsening, but that it can also be the cause of food intolerances and various metabolic disorders.

There is so much emotion and fanaticism involved with food, and while there are those who reject even the smallest amount of sugar consumption, there are others who recommend it. This conflict will not be solved through passionate beliefs or through observation and experimentation alone. However, an examination of sugar and its special relationship to the human being is worthy of our attention. In order to reach a basis for judgment, I will start by looking at its essential nature.

Human beings are dependent upon their blood sugar, which contains approximately one hundred milligrams glucose per one hundred milliliters of blood. Glucose is of the utmost importance for the metabolism of every cell, especially nerve cells. If blood sugar levels sink significantly, nearly all functions of the organism grow weaker. Among other responses, an overall weakness arises leading to susceptibility to infections and lack of self-control. If the levels sink still further, unconsciousness ensues and, later, death. This emergency of the body can usually be reversed within a few minutes if sugar is given in time. It should now be obvious just how important sugar is to maintaining life.

Sugar, or to be more exact, glucose, is necessary to life and can be found in every plant, every animal, and all human beings. Even though it is possible to isolate sugar out of every life form, an economic profit can naturally only be realized from sugar-rich plants such as sugar beets and sugar cane. Both of these plants, however, do not contain glucose but rather the sweeter sucrose which we normally refer to as sugar. In the market it appears in its highly processed crystalline form as the sugar with which we are all familiar. The so-called grape sugar (glucose) is not in the least refined from grapes. That would be much too expensive. Most often cornstarch or potato starch is broken down into glucose. This is what is available in its purified form as “grape sugar.”

For the past few years, fruit sugar (fructose) has been available in stores in its “pure,” crystalline form. It is sweeter than glucose, more easily metabolized and is therefore better tolerated by diabetics. This processed fruit sugar is also not taken from fruit. As in all of these sugars, there is no legal requirement to declare their origin because this seems superfluous since in these highly purified, isolated substances it is only the chemically standardized form at issue. And in these cases, these descriptions are misleading to consumers who are unaware that the labels refer to a chemically defined substance, not to the source of the substance.

The chemistry of sugar

Sugar, in the customary sense, is the purified, sweet essence derived from sugar cane or sugar beets. Chemists describe this substance as sucrose—a disaccharide, a compound made up of glucose and fructose that is bonded in such a way that it contains virtually a balled-up charge of energy. From a chemical point of view, there are a large number of sugars and they taste very different from one another. For example, fructose is three times as sweet as glucose. Lactose, also a disaccharide, but a compound of glucose and galactose, does not taste very sweet at all. Beyond that, there are very few kinds of chemically recognized sugars that do not taste sweet to human beings. Nature has also provided rare plants that produce substances that taste much sweeter than sugar. Synthetic substances have been produced that taste up to four thousand times sweeter than sugar but contain no sugar at all and lack any nutritional value. These substances will not be dealt with in this article.

It is important to be clear that sugar in its isolated form absolutely does not exist in nature. It appears in the relatively few sweet plants, such as fruits, but always in association with other substances. The only substance in nature that contains concentrated sugar is honey.

Milk sugar (lactose), as the name suggests, is found exclusively in milk. Fruit sugar (fructose) is found above all in fruit but also in flower nectar and therefore makes up to fifty percent of the content of honey. Grape sugar (glucose) is found not only in grapes but in just about every plant juice as well as in human and animal blood (even though the amounts in the latter cases are minimal, they are significant). Glucose makes up the other fifty percent of the sugar content in nectar and honey. Glucose is the most widely present sugar found in nature.

All sugars have the common characteristic of being able to form crystals. This process is used during the purification process whereby sugar cane or sugar beet juice is thickened to the point of crystallization and then further “purified.” Through this process, the two sugars become similar to the point that only with great difficulty is it possible to tell if the sugar is from sugar cane or sugar beets. Interestingly, cane or beet sugar, the white, processed sugar available in stores (99.9% “pure”), is very easy to crystallize. It is possible to produce giant crystals from cane or beet sugar. Rock candy is made from such crystals. Let’s examine what this phenomenon tells us.

Crystals are an expression of the dead mineral world. Life can never stem from crystals. Since sugar always has its origin in life, then the living aspect, at least for the purpose of crystal formation, must be eliminated. In order to avoid any misunderstandings, we should acknowledge that it is possible today to produce protein crystals, amino acid crystals, and vitamin crystals. Nevertheless, they are able to produce life-like effects upon the living. However, when a protein goes into a crystallized form it is no longer the carrier of actual life processes, just as a slaughtered animal is no longer alive. Its meat still contains enough life that it can serve as food. Generally, one must differentiate between the kinds of crystals. Vitamin crystals are very delicate and bushy. They are never really large crystals like rock candy or quartz.

One can determine how far removed from life the crystals are by their formation. This is especially apparent with processed sugar and its giant crystals. It is not so apparent with fruit sugar which is difficult to crystallize and then has only very small crystals. In spite of this, the fact remains that every “pure” sugar is an isolated substance that has a tendency to form crystals. But every isolated substance is dead. There is never a living organism that consists of one, single substance. As far as that goes, the words “to purify” in a chemical sense, when used in a biological sense means “to kill.”

Pathologies

Herein lies the source of many misunderstandings. For example, because it is possible to quickly and easily counteract the fatigue of low blood sugar caused, for instance, by overwork, one believes that it is all right to repeat this process as often as desired. One even looks at it as a necessity to take care of an actual “need” for sugar. In reality, what happens is the following. As opposed to all other nutritional substances, sugar is immediately absorbed into the blood (glucose and regular processed sugar work the quickest). Because of the quick absorption rate, a large amount of sugar overwhelms the organism. There is a relatively sharp increase in blood sugar that the organism counteracts by producing insulin. This leads, however, to a hypoglycemic reaction, that is, low blood sugar that one thinks must be relieved through the intake of sugar. In this way a real addiction is established. By satisfying one “need” a new, usually stronger need is created. That is why the long term treatment for hypoglycemic episodes does not consist of

supplying sugar (even though it's immediately effective), but rather in avoiding all sugar. In principle, it is the same process as the treatment of an addiction.

For this reason, one could describe people who believe they are absolutely dependent on sweets at certain times, because they could not work otherwise, as "addicted" to sugar. They even exhibit symptoms of withdrawal! There is no doubt that the fine line between health and illness has been obscured. Need and gratification then require repetition and, in the end, have mastery over the entire person. Addiction to a substance or an object is the result. This leads to physical disturbances, especially in the metabolic system, as well as a weakening of the personality.

In reality, constantly repeated and overindulgent sugar consumption can be such a burden to the organism that it can no longer control sugar metabolism. The organism becomes unable to withstand the constant influx. Too much sugar results in an attempted equalizing reaction that leads to low blood sugar. Today, we know that these episodes are precursors to diabetes.

As opposed to giving in to the desire for the pleasure of an addiction, real searching, which is a spiritual undertaking, often requires great effort. It can lead to a strengthening of the personality through mastering the addiction.

Hypoglycemia – low blood sugar

The symptoms of low blood sugar (hypoglycemia) are extraordinarily varied. They can appear as fatigue, sleep disturbances, cold sweats, shaking, headache, and a desire for sweets or stimulants such as coffee or alcohol. Furthermore, there are significant fluctuations in blood pressure, dizziness, and disturbances of the liver and eyesight, mood swings, depression, anxiety, aggression, hyperactivity, and associated problems with school or work! Finally, an inability to concentrate, forgetfulness, and irritability can occur. However, all of these symptoms may not necessarily be noticeable at first.

It should be made clear that certain of these symptoms, such as chronic fatigue, depression, or a sudden decline in performance, are very widespread. In these instances very few people (and doctors) think first of a blood sugar problem. The last consequence of very low blood sugar levels is a serious difficulty with conscious awareness, potentially going so far as rendering a person unconscious. If help is not received immediately, the person will die. A one-time measuring of blood sugar levels does not tell us very much. A good picture can be gained first by a sugar-tolerance test and a daily profile. Among many causes of low blood sugar, the most common are due to hunger, shock, emotional stress, and overwork. Today, the widespread, thoughtless consumption of sugar adds one more cause. The following research shows that not only sugar metabolism is affected from being overburdened, but also fat metabolism is adversely affected. For instance, when dogs are fed a sugar-rich diet over a long period of time they develop gallstones, something that does not normally occur in dogs. Such an experiment is clearly against the nature of dogs since they are meat eaters, but it does show that gallstone

formation is in no way only a fat problem as it is usually presented, and that sugar can also negatively influence other metabolic processes. Likewise, it was found that hamsters also formed gallstones when fed a fat-free but sugar-rich diet. The truth that sugar negatively influences fat metabolism can also be seen by the fact that sugar consumption increases fat as well as cholesterol in the blood. The “high blood cholesterol” which is feared by so many people today is in no way an isolated fat problem, but just as much a sugar problem! Unfortunately, the combination of sugar with fat or eggs is the basis for pastries and other palate-delighting confections. It has already been emphatically stated that it is not our objective to thoroughly discredit these substances but rather to be attentive to their consumption in acceptable quantities.

Healthy sugar production

If bread and vegetables are eaten, instead of sugar, then the starches that the former contain (which are, in reality, the stored life of plants) are gradually transformed into sugar through the digestive process. They are transformed into glucose or blood sugar. There is no abrupt rise or corresponding sharp decline in blood sugar levels. Normally, a healthy liver has a large amount of stored glycogen, the equivalent to starch, and there is enough present that can be broken down at any time to assure that adequate amounts of sugar are present in the blood. Therefore, in the normal course of things, the direct intake of sugar is absolutely never a necessity.

Our food can only nourish us in so far as it still contains life and is therefore able to feed life. Only foods that nourish have the right to be considered nourishment. Only a life-sustaining diet has the right to be called “food.” All other edibles are nutritional substances, such as salt, which are necessary to life, but do not contain life. The same is true of other pleasure foods such as coffee, tea, or sugar. A crystalline substance is dead and lacks any life. Sugar still contains calories that can quickly deliver energy to people, but no life.

Life is destroyed when we break food down into isolated substances. In natural products containing sugar one finds exactly those vitamins (B-complex), minerals, and trace elements that the organism needs in order to process the sugar. Human beings, however, are fond of the pure, sweet, sugar, and so it is isolated out. The process requires following certain steps. The fresh sap of a plant is still, almost, an organism. It is more or less only the structure-giving cellulose that has been omitted. During the incremental purification process, all of the “superfluous material” that carries the plant’s specific life force is removed until finally only the pure substance sugar remains. If it is really pure, then no more plant substance can be found within it. The plant’s specific, life-carrying substances have been removed. That is the reason it makes no difference if the white, highly purified sugar comes from sugar cane or sugar beets.

Many people prefer brown sugar, thinking that it still has some life in it. Certainly it does still contain a little “plant.” However, comparing it to white

sugar, we find that the little bit of plant substance remaining is so miniscule that we may as well do without it. Add to this the fact that impurities as well as undesirable byproducts of decomposition resulting from the chemical production can inadvertently find their way in.

The situation is different with molasses. Whether from sugar beets or cane sugar, it is concentrated plant juice. This also applies to whole cane sugar which is produced through a concentration process. These products still have the unique taste and essence of the plant, the sugar cane, which must be taken into consideration when preparing certain recipes. Purified, white sugar, on the other hand, has a neutral, “purely sweet” taste.

Without doubt, concentrated juices do not have the disadvantages of purified substances. However, in every form of food preservation, including dehydration, the living aspect of the food is only partially kept in spite of the fact that the vitamin content may remain completely intact. This is, of course, not the case with fresh products. It should be emphasized that a fresh product always takes biological precedence over a processed product.

Energy versus life

Based upon information in the previous pages it may now be stated that sugar can deliver energy but it cannot deliver life. And life is exactly what people and animals need from their food in order to stimulate their own life forces. It is the task of the liver to form new, lively, even individual body substance from life forces which can serve as a foundation for the respective life. In other words, the liver needs life, but not energy! Strong will forces can be a prominent characteristic of an energetic person, but that does not mean that the person has real vitality, in other words, a lot of etheric life forces. No one can live from this drive, this energy, alone. The energetic drive uses the life force, closely associated with gall formation, that is naturally present in food and which the liver requires to form its own, individual body substance. For this reason, a sick or damaged liver, which needs life, cannot do anything with sugar. It does not deliver the life force that the liver needs to form living substance. It is for this reason that people with liver disease or a weak liver (estimated to be eighty percent of the population in industrialized nations) should, at least for a certain period of time (four weeks as a healing cure), completely abstain from *every* form of sugar in their food. Most people note very significant improvement during this time. Unfortunately, little attention is paid to the fact that increased sugar consumption can burden a (still) healthy liver. Hypoglycemic conditions damage the liver by using a large part of its reserves of glycogen.

Sugar contains a certain number of calories that can be exactly measured, 4.1 calories per gram, but it contains no life. A physically exhausted person, such as a mountain climber, for example, can quickly gain the needed energy to support his fatigued muscles by eating sugar. In such cases sugar can even be life-saving. However, it is an illusion to think that one can take this “substitute energy” for as long as one desires because human beings and

animals continuously need plant or animal substances that contain life in order to live themselves. Energy is expired life.

No human being or animal can exist on sugar alone. Even bees can be fed sugar only for a limited amount of time. Science explains this by saying that sugar is a pure substance that contains no vitamins or minerals. But even if these things are added to sugar, still no living substance has been created. An isolated substance must always have a variety of supports in order to support life. In today's biology, life is not seen as being really self-supporting. In order for life to appear, a variety of substances are required. However, the sum of these substances still cannot form life. Just as the whole is more than the sum of the parts, so is life much more than energy plus vitamins, trace elements, and so on.

It can be seen just how far removed processed sugar is from life by the fact that it is used as a preservative for other life. Sugar is used in the production of marmalades and jams, fruit juices, candied fruits, and so forth. When these products contain at least sixty percent sugar, there is an absolute guarantee of their preserved quality. No microorganisms can thrive in this environment, thus insuring that there is no fermentation. Homemakers produce jams using a "pound for pound" formula, that is, one pound sugar for every pound fruit, which is adequate for household use. Commercial products usually contain sixty percent sugar just to guarantee the shelf life. If the product contains less than fifty percent sugar it must be sterilized or kept refrigerated for use within a short period of time.

If one gives a person sugar, in reality, one is giving that person a stone instead of bread, namely, a crystallized, dead substance that no longer contains life. The situation is completely different if the person eats a sweet piece of fruit. One could argue that fruit also contains sugar. But that argument is misleading because fruit is not made of "components" that have been put together, but is itself an organism that comes from life and still contains life.

Today when people greatly reduce their sugar consumption or abstain temporarily, either by their own volition or on a doctor's advice, they usually do not want to give up the sweet taste they have become accustomed to in their food. Many people believe that honey can be easily substituted for sugar because, after all, it is "so healthy." This error requires closer examination. Likewise, replacing sugar with one of the synthetic sweeteners – for fear of too much calorie intake – as is done in all of the "fat free or light products," does not solve the problem of being addicted to the sweet taste.

Honey

Honey originates from the living organisms of a flower and a bee and represents a unit, not an imposed connection like the insertion of processed sugar into artificial honey. Bee honey is one of nature's most precious products and is therefore more expensive than sugar, and rightly so. Along with glucose and fructose, honey contains a wide variety of highly active substances that have deep-working effects such as enzymes, amino acids, trace elements,

vitamins, and other active ingredients. Since it is an organism emanating from life, honey should not be heated above fifty degrees centigrade. This is not to protect the sugar content, but because the other substances, especially the enzymes, largely associated with honey's germicidal effects, are either damaged or destroyed by heat. Honey was already used in antiquity, for instance, in treating throat infections, diphtheria, and angina. Slowly swallowing small amounts of honey usually brought immediate relief for these conditions. Honey was also used externally on wounds that would not heal. Through its unique structure, honey not only became a food, but also a medicine. For this reason, it should not be consumed in unlimited quantities but rather in small doses like a medicine.

Due to these characteristics, honey is not appropriate for infants! Not only does it easily cause diarrhea, it also has other effects that are not tolerated by infants, unlike lactose, the sugar that is present in milk. It is true that human milk, with seven percent sugar content, is much sweeter than animal milk, but milk sugar has special tasks that are especially important for infants, such as supporting brain development. It can be shown to the smallest detail that the fruit sugar found in honey has exactly the opposite qualities of the galactose which is found only in milk sugar. It deserves serious consideration that milk sugar is found nowhere else except in milk. It has certain tasks that other sugars cannot perform unless they are transformed by the organism, which would mean a developmentally inappropriate burden for an infant.

In earlier times people still knew that milk was for infants and honey was for old people! Infants or small children can connect themselves to the earth with the help of milk, and older people, by eating honey, can free themselves from being too strongly connected to the earth, allowing a reconnection with the spirit. Today we have almost the opposite situation in which infants are being fed honey instead of sugar and old people are being advised to drink a lot of milk as a "protection against osteoporosis." The far-reaching consequences of this practice for the entire development of humankind are presently being absolutely ignored.

Why do human beings—and some animals—have a pronounced desire for sweets? In every case, a "sugar craving" is something that is artificially produced because there is no such thing as pure sugar existing in nature. Truly sweet products are a rarity, and there is certainly a reason for this! The previously mentioned physiological effects of sugar (glucose, not white, processed sugar, to be more exact) that are necessary to life are an expression of another task that has been identified through spiritual-scientific research. Sugar has significance for humankind that reaches far beyond the biological realm. And this touches on the sweet taste. Only a few animals, such as ants and horses, are attracted to it while the majority of the animals, especially goats, prefer salt. For many people, the sweet taste is highly attractive and synonymous with pleasure. In this connection, we are dealing with a spiritual-soul issue! It is significant that we can observe sugar having opposite effects. For as long as sugar has been around, it has been known that a glass of sugar

water or relaxing herbal tea with honey before bed was a harmless, yet effective sleeping potion. But the exact same amount of sugar eaten during the day has a stimulating effect! On the one hand, this contradiction is connected with the rhythm of the liver, whereby it is more active during the night and better able to process sugar than during the day. On the other hand, the prerequisite for the “stimulating” effect of sugar is that the person is active! However, there are people, who, after eating a sweet breakfast, as is the norm today, practically collapse from tiredness two or three hours later. This is again a problem with the liver that demands that these people absolutely refrain from sugar and all sweet foods in the morning.

Ego power

It can be said that, in general, when people eat sugar, they immediately feel a certain increase in strength. The reason for this is not only that energy is made available. Above all, the feeling of increased strength has to do with the fact that people feel that they have an expanded basis for their activity. They not only feel more physical capability, but are also more alert and spiritually stronger because the sugar gives their ‘I’ a significantly larger foundation. The ‘I’ (ego) feels superior and stronger. But it is a fateful misunderstanding to think that the ‘I’ itself has become stronger in the sense that sugar has strengthened it. It is not possible that the human individuality, the ego, could be so easily strengthened by using such a simple good-tasting substance, a luxury food, like sugar. The individuality can certainly experience advancement, but only through life-long practice, work, effort, learning, and even a certain amount of self-denial. Human abilities can be developed only through repeated practice, through an effort of the will. This begins with a toddler’s learning to walk and continues right through all the abilities that must be gained along the path of spiritual development.

Sugar certainly does strengthen the ‘I’-feeling, the impression of being strong, but this is completely independent from one’s actual strength. It has to do, more or less, with an illusion, a “borrowed” and not an earned strength. That is the reason why children, especially, like sweet things. Sugar makes it possible for them to “feel right at home” in their organism. It even gives them a feeling of strength and superiority, which children need to a certain degree, but must develop on their own. For this same reason, older people also have an increased desire for sweets. They feel their waning strength and realize they can no longer keep pace with younger people in many areas. Sugar energizes them again and allows them to feel like strong individuals so that they can maintain themselves in their bodies.

It should be emphasized once more that we are dealing with an acute, temporary increase in physical energy but not with a strengthening of the ‘I.’ It is only a strengthened feeling of the presence of spirit. Sugar does not support the ‘I,’ but rather the ‘I’-organization. Rudolf Steiner clearly distinguished the two in his written works. Although I cannot go into detail here, for the sake of clarity let it just be said that the ‘I’-organization is the

spiritual instrument for the 'I.'² It is what differentiates us as human beings and gives us all the qualities that the animals do not have: walking upright, speaking, and thinking. Also, human beings must learn these things, something not required of animals.

For example, it is well-known that enormous problems arise when a great deal of money, a fast car, or an important position come into the hands of weak-willed, or not yet fully developed individuals who cannot (yet) control themselves. They are itching to demonstrate "their" power, to "show-off." Whether this is exhibited through speeding, bragging, or abuse of power, it is at the expense of the surrounding environment. These people are under the illusion that they themselves are strong and powerful. This is exactly how sugar affects the 'I'-organization in human beings. It can create a false egoism with feelings of strength based on illusion. A truly strong 'I' is always modest and unassuming.

Even though people are dependent upon blood sugar as a substance that is necessary for life and for support of the 'I'-organization, there is no biological need for refined sugar consumption. If carbohydrates, vegetables, and fruits are eaten, then metabolic activity is required in order to digest the starch contained in these foods and transform it into blood sugar. If refined sugar is eaten directly, then this inner activity does not occur; the finished product is received without the least bit of effort. It is the same with the soul aspect. It is known that we do not really do a child any favors when we excuse the child from putting forth effort or doing an activity such as learning new skills, hiking, practicing, and even voluntarily doing without some desired object. The results of this well-intentioned "help" often show up later in life as serious problems, such as a lack of an ability when it is needed, or a weakness in the digestive system, the immune system, or as an emotional or spiritual weakness. These insufficiencies recall when a child was not given the possibility of facing challenges, which could have resulted in a true strengthening of the 'I' and the development of inner capacities. All direct introduction of "finished" products – vitamin D, sugar, as well as play with "finished" dolls or pictures – dampens self-activity and weakens the 'I.' Finished products provide the illusion of strength, of being able to do anything, have anything, and master anything. Sugar supports this feeling through a quick, but temporary, "borrowed" increase in strength, but at the same time the 'I' does not gain any ability to cope with it! The 'I' can develop only through practice and by overcoming adversity.

The result in youth is that an undeveloped, or not completely competent 'I' will not be able to use this increased 'I'-feeling sensibly. If someone hikes up a mountain and another person takes a cable car, both have reached the top. They have achieved the same thing, the mountaintop, but only in appearance. The significance of the inner experience as well as muscle development are greatly different for each.

The ideal in our entire way of life today seems to be to gain as much as possible (money, pleasure, success) with as little effort as possible. Opportunity for inner development gained only through self-activity is, of

necessity, left behind. In this regard, sugar has an empowering effect because it quickly and easily lends a feeling of “energy” and “pleasure.”

Earthly circumstances

Rudolf Steiner pointed out that civilization’s development (not culture) runs parallel to sugar consumption because sugar makes possible a “stronger independence of our thinking capacity.”³ “One could say that through sugar consumption a kind of innocent egoism is created that can form a counterbalance against the necessary selflessness in the area of the moral-spiritual. Otherwise the temptation would be too great that people would not only be selfless but also dreamy and full of fantasies. They would lose connection with a healthy ability to judge earthly circumstances. In this respect, a certain addition of sugar to the diet contributes to giving us the possibility, despite our rising up into the spiritual realms, to stand with both feet planted firmly on the ground. We have the opportunity to cultivate within ourselves a certain healthy, earthly view. On the whole, one can say that eating sugar physically raises the quality of a person’s personality.”⁴

These statements were made in 1913 and in the past eighty years general sugar consumption has increased considerably. The danger that a person would become only “selfless, dreamy and fantasy-filled” is hardly the case today. Today’s humanity stands much more “with both feet on the ground,” usually too much so.

In another lecture he gave in 1923 Steiner said: “Sugar is that which keeps human beings strong inside if, at the same time, it is carried over into the organism in the right way.”⁵ He foretells that populations with high sugar consumption will become self-confident and egoistic and that populations with little sugar consumption will become non-egoistic and weaker. It should be made clear that Steiner’s use of the word “weaker” does not refer to physical or spiritual strength, but rather that the “quality within the personality” does not make a very strong appearance. The ‘I’ is more contained and not aggressive, nor is it strongly egoistic. Here, again, we should take into consideration that world conditions were much different in 1923.

The point stands, however, that the way of life demanded by civilization awakens a desire for sugar because the pace of life is ever quickening and requires ever more performance capacity and energy. The quantities of sugar used by the average human being today is significantly more than at the turn of the century. Increased sugar consumption further stimulates the feeling of superiority and advantage which further stimulate life’s tempo. The pressure to achieve increases; we meet that pressure with sugar which, for its part, supports more productivity, and we have a never-ending cycle that finally ends in exhaustion because no real life-containing substances are consumed. It is a fact that many people today believe they would not have enough energy to get through the day without sugar. What that means, however, is that they are addicted to sugar.

Sugar consumption

The following table shows world-wide sugar production starting in the nineteenth century:

1800	0.25 million tons
1850	1.50 million tons
1900	over 11.00 million tons
1980-90	70 – 80.00 million tons

While world population has increased from 900 million in 1800 to 1.6 billion in 1900 and 5.6 billion in 1990, the relative sugar consumption has increased disproportionately:

1800 in Europe	1 kilogram = approx. 2.7 gr./day
1850 in Europe	2.5 kg 7.0 gr./day
1980 in Europe	40.3 kg 110.0 gr./day
1980 in USA	50.3 kg 137.0 gr./day
1980 in Australia	55.3 kg 151.0 gr./day
1980 in Ireland	69.1 kg 189.0 gr./day

After World War II, during which there was a reduction in sugar production, there followed a rapid increase which has declined in the last few years. For example, in the 1980s in Switzerland, 48 kilograms of sugar were consumed per person per year. In 1990, that number decreased to 41 kilograms. In Germany it went from 132 grams per day down to 112 grams.

Before World War II, children were given sweets only rarely as a reward. Today, on the other hand, it is taken for granted to indulge, often many times a day. Children even demand sweets, and the vast assortment that is available in all the stores makes it tempting to give in to those demands. A study in the USA showed that the largest amounts of sweets were consumed by youth between the ages of twelve and fourteen. They eat 140 to 150 pounds of sugar per year, or approximately 178 grams per day.

As for the consumption of ice cream in Europe, it varies by geographic areas, but the maximum consumption is not in nations with hot climates, but in Sweden. In 1993, the Swedes consumed 13.8 liters of ice cream per person followed by Denmark with 9.7 liters. Next in line were Italy, Belgium, Switzerland, Germany, and the Netherlands with 8–9 liters. The populations of Spain and Greece consumed the least amount of ice cream with approximately 4 liters per person. It becomes clear that the cooling effect of ice cream is not the attraction but rather a desire for quick eating pleasure and sweet taste that obviously varies among the different nations.

The increased desire for sweets in our time certainly has various causes. Infants receive processed sugar already in their formula, which is significantly sweeter than natural lactose found in breast milk. (The possibility of putting

natural lactose into infant formula has been thoroughly researched but that is another subject that I can not deal with in this paper.) Young children are thoughtlessly fed sugar whereby their healthy appetites further deteriorate. Furthermore, sugar, like salt, enhances the flavor of foods (more specifically it heightens the pleasure sensation), and so sugar is a popular additive even in salty foods. (Tomato catsup is 14% sugar!). Pickles, canned fish (!), salads, and, in the USA, every loaf of bread are sweetened with sugar, syrup, honey, molasses, or artificial sweeteners. Through this, eating habits are changed and healthy appetites ruined.

Additionally an increased desire for sweets can be caused by an actual need: the organism is missing something and it searches for what is missing. Among other things, the desire for sweets can be caused by a need for minerals (calcium, iron, trace elements, and so forth) that are not often present in the diet anymore and are then unconsciously, but incorrectly, replaced by the “mineral” sugar. If one nourishes this need for minerals with a whole-foods diet (whole grain bread and fresh organic fruits and vegetables) and completely refrains from refined sugar, then the desire for sugar will disappear when one’s blunted sense of healthy appetite becomes normalized, in about four to six weeks. During this time one must “stay the course” through insight and will.

What else is missing? Affection, contact, or love. Sugar can be a satisfying replacement for emotional emptiness. Actually, a lack of affection does not always mean that, for instance, a mother does not love her child. On the contrary, an overabundance of tenderness or a parent’s best intentions in fulfilling a child’s every wish can cause defensiveness in the child. In spite of everything, or perhaps because of it, the child does not feel understood, is disappointed, and turns to sugar as a surrogate. It is not only children who do this! Often, partners or friends are pampered and given gifts instead of love and understanding. Nutritionally this is offering sugar instead of life. In these cases, emotional-soul or organic-physical emptiness is the result and, furthermore, the substitute that gives satisfaction demands repetition.

Fungus infections

The consumption of refined sugar lays fertile ground for fungal infection and infection in general, and during the past decades yeast or fungus infections have become a widespread problem. Sugar feeds the yeast.

I am referring not to the cultured yeasts, harmless and of great benefit, but to “wild” yeasts that are pathogenic for humans because they cause illness. There are different genera such as blastomycetes, especially *candida albicans*, which is the most widespread. It can be found in various skin diseases, in digestive tract or bronchial disorders, or in other internal organs. Today, almost everyone has had some kind of foot fungus, which is itself not very bothersome, but can affect large areas of skin or internal organs.

The “imperfect fungus” *candida albicans* has been known for a long time and often appears as a white coating in the mouth of weakened infants

or diabetics. It was considered harmless and “only” a sign that there was a weakness present. A few decades ago it was discovered that *candida albicans* was not only present in the mouth but tended to proliferate throughout the intestinal tract (from mouth to anus), especially in the mucous membranes, and from there could infect other systems and lead to serious health problems. Sugar that has not been metabolized (diabetics) is especially appealing to sugar-loving yeast, and *candida albicans* is the most prominent in this group. The cause of propagation then, is not any sort of “determination” of the microorganisms to spread. It is the same cause as the original infection, namely a general weakness present which has extended into various other regions of the body. It is clear that a fertile breeding ground for these microorganisms plays a decisive role in this process.

Granted, not every person will become infected with a fungus. A weakened immune system must be present, as occurs after a treatment with antibiotics, for example, in which healthy intestinal bacteria is also destroyed. A disturbance of the “healthy” bacteria found in the intestinal flora can also appear after palliative treatments or from taking birth control pills for longer periods of time. Very overweight people and diabetics are also in danger of being infected with a fungus or yeast bacteria.

The symptoms of a fungal infection range from chronic fatigue to digestive complaints to depression. Even some lung problems such as chronic bronchitis and asthma can be rooted in fungal infections.

The prerequisite for becoming “infected” this way is a certain susceptibility to illness, a “breeding ground” for fungi that is, in reality, a weakness. Metabolic failures occur when the influx of sugar, for example, becomes so great that the organism can no longer deal with it.

Since sugar consumption in the last few decades has increased, then these yeast cultures can easily degenerate because of excess sugar that has not been properly metabolized leaving them free rein because the controlling force of the organism is too weak.

The metabolism of these “wild” strains is different from that of the cultured strains. In addition to alcohol, they also produce completely different byproducts, some of which are poisonous. This can also be the result in the manufacture of fermented products, especially cheap distillations to which the human organism can react with headache, fatigue, or various metabolic disorders. In other words, they can create symptoms similar to a hangover from drinking too much alcohol.

Certainly, these symptoms are relatively harmless in the beginning. But a chronic continuance can become a serious hindrance to a person. If this condition continues for a long period of time, then the organism becomes resigned, the immune system becomes weaker, and the fungus can then infect other organs outside of the intestines. It is estimated that in Germany approximately eight to ten thousand people die per year as a result of fungal yeast infections, in most cases *candida albicans*.

As is the way of our times, special medicines have been developed to kill these fungal yeasts. Often the symptoms disappear quickly but return after a while because the conditions in which the yeast thrives (sugar) are still present. Real treatment of the cause can not simply be the destroying the yeast but rather must include a diet that is sugar-free as well as white-flour free (the so-called anti-yeast diet). White flour products are baked with yeast and present the organism with an easily digestible starch that quickly becomes sugar, which in turn becomes the breeding ground for more yeast.

Bread baking

Bread baking has completely changed in the last decades. Until fairly recent times, rye was the preferred grain for bread. For millennia it was baked with sourdough. Sourdough also contains yeast but its yeast does not create alcohol but rather lactic acid. The processes used to make these natural, lactic acid products have been known since antiquity. In very recent times the significance of lactic acid to a healthy metabolism has been rediscovered but the concept has not yet broken through into general practice.

Since the sourdough starter had to be saved until the next baking, it was sometimes not stored properly and would spoil, resulting in the bread not rising or other acids and products being formed which would create a bad taste. It was found that all of it could be avoided by using yeast and so baking became more practical, much quicker, and more certain in its outcome. Bread baked with yeast was also lighter and more easily digested. That is why yeast gradually gained preference over sourdough.

However, what was not considered was the importance of the dough preparation before baking. Preparation of the dough introduces a breaking-down process in which a predigestion takes place making later digestion easier. There are, however, two different ways in which this can take place. *Yeast* influences the starch in the bread to actually begin the process of fermenting alcohol, although this should not occur in the human organism. In contrast to this, the lactic acid formation in *sourdough* fosters the breaking down of sugar as is appropriate for the human organism. Within a healthy human metabolism, glucose is broken down into lactic acid which has special functions. For example, it can be easily re-formed into glycogen. It also creates the proper foundation for the growth of microorganisms that are essential to good health.

It should become clear that the path of alcohol fermentation is very problematic for human beings. It is not the alcohol created by yeast during bread-baking that is decisive, since it almost completely disappears during baking because of the heat. Much more important is the path of digestion the organism is prompted to take. On the one hand, there is the path that is compatible with the original, natural digestive process, that is, lactic acid formation. In contrast to this is the “alcohol path” which leads the sugar metabolism in a completely different direction (yeast fermentation) and which the organism must correct. In other words, using yeast supports one form of

digestion, and the organism is prompted to continue this path in its own process. Here, then, we find two possibilities presented. A healthy person can accomplish this without problem, but the important factor is the long-term effect. Such “small disturbances” are compensated for over time. However, if this goes on for decades or even generations and it is encouraged through a certain product (in this case, sugar), then the metabolism is guided into a false direction. This is now the case the whole world over.

These changes are rooted in trying to make something easier, in this case, bread production. However, in the end it is harmful to the digestive process. For instance, digesting white bread requires hardly any effort and digesting sugars requires none at all.

Today, wheat is the grain most often used in baking bread. The word “wheat” is almost interchangeable with the word “grain” in our modern language usage. Approximately one hundred years ago, people ate double the amount of rye than wheat. Today there is three times more wheat consumed than rye, and that tendency is on the increase. Whole wheat is very easily digested but its lack of lysine makes it incomplete. White bread made with yeast is the most easily digested and its transformation into sugar happens much faster than with rye.

That is why, in order to cure fungal yeast infections, it is necessary to make the transition from wheat bread to rye bread. One must be careful to use natural sourdough starter. Today even so-called sourdough bread is made using mostly yeast, or an artificial sourdough, or “sour ingredients” such as vinegar and other products. This allows the dough to rise faster or gives it the appropriate taste but it does not guide the digestion down the same path as real sourdough.

The human desire to have everything as quickly as possible, as simply as possible, and as “certain” as possible is probably the underlying cause of the development of a preference for yeast bread over sourdough. As we know not everything that is easier is also better. Yeasted breads have been around for only about a hundred years. Baking bread from sourdough has gone on for thousands of years. (It is spoken of in the Bible.) The fact that over time the entire metabolism has been reprogrammed is noticed only after years, decades, and perhaps not even then. It is very difficult to change well-loved and widely accepted habits such as sugar and white bread consumption. Naturally, this does not mean that people must give up eating sugar completely! Rather, it should be recognized that the root cause of many weaknesses, illnesses, and aberrations can be found in excessive and long-term consumption of sugar and refined carbohydrates. Over time, creating an easier process for the sake of economics, with its implications in the digestion process, will become a burden.

Sugar today is not only a pathogenic factor able to cause physical harm with long term use. A much more serious problem is found at the soul-spiritual level whereby a person’s development is influenced through an illusionary strength attained by a temporary gain in energy. It does not make sense to avoid sugar altogether, but one must return sugar consumption to a more

moderate and acceptable level than is the case today. This especially applies to those with already weakened constitutions, as is so prevalent worldwide, and the tendency is on the rise.

Endnotes:

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4. Rudolf Steiner, *Welche Bedeutung hat die okkulte Entwicklung des Menschen für seine Hüllen und sein Selbst?* Complete Works 145, March 21, 1913.
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