

## THE STORY OF SUGAR

USEFUL COMMODITY HAS HAD A ROMANTIC PAST.

Its Origin Goes Back Into the Most Obscure Antiquity—Chinese Made It Many Centuries Before the Christian Era—Plantations Moved Westward With Civilization—Process of Manufacture.

There are few articles of commerce better known than sugar, and few, if any, have such a universal range of utility. Taking the word in its widest sense, sugar is more or less known in all countries, whether civilized or uncivilized, for it can be obtained from more than one source. Sugar is such a familiar household word that we seldom think of it in any other way than as sugar. We know its uses and its powers of pleasing our palates, and there we rest—content that we have it, but seldom thinking of its value or its source.

As a matter of fact, however, this valuable commodity is not only a food necessary for every person, and an important item in several forms in every household, but it is also an indispensable raw material in many industries. It forms the base material for the preparation of lactic and formic acids, of certain cements, soaps, inks, shoe blacking, etc.

There are many other industrial purposes for which sugar is used, and as a food product which is universally consumed, it is not too much to say that, next to wheat, it is perhaps the most important single item of international and national commerce in the world. It has tested the fate as well as the wealth of nations, and has wrecked ministries as well as financiers, though to the average man—and woman—it figures only as a somewhat insignificant if not contemptible item in the grocery bill.

The history of the sugar cane may be traced back till it is almost lost in the depths of obscurity. Humboldt considered the manufacture of sugar to be of the greatest antiquity amongst the Chinese. It was certainly known to the Greeks and Romans, and Herodotus probably alludes to sugar when he speaks of "honey made by the hand of confectioners."

There is some doubt attending its native country, though it is probable that it originally came from Southern China and India. The Chinese themselves admit that they first gained their knowledge of the art of making sugar from India somewhere about 766 to 780 B. C.

We have evidence that at a later period, the Ninth Century of our era, sugar was grown in Persia, and the Persian physicians of the tenth and eleventh centuries first introduced it into medicine. The Arabs cultivated the cane in many parts of their Mediterranean settlements, and as early as 861 A. D. the plant flourished in the Iberian Peninsula. It was about this period that the sugar manufacture was introduced into Europe, being brought from the East into Sicily by the Saracens. We are told by Venetian historians that the twelfth century sugar could be imported from Sicily to Venice at a cheaper rate than it could be brought from Egypt, where extensive plantations then existed.

In Sicily, then, and in Valencia, during the early part of the thirteenth century they were gradually extended to Granada, Portugal, Madeira, and the Canary Islands. Soon afterwards sugar of Egyptian origin formed a staple trade between the merchants of Venice and of London, which then constituted the great wealth of England, being largely exported in exchange for it. In the Middle Ages Venice was the great European center of the sugar trade, and towards the end of the fifteenth century a Venetian citizen received a reward of 100,000 crowns for the invention of the art of making loaf sugar.

One of the earliest references to sugar in Great Britain is that of 100,000 pounds of sugar being shipped to London in 1319 by a Venetian merchant in exchange for wool. In the same year there appears in the accounts of the Chamberlain of Scotland a payment at the rate of 43 cents per pound of sugar. Throughout Europe it continued to be a costly luxury and article of medicine only, till the increasing use of tea and coffee in the sixteenth century brought it into the list of food staples. So recently as 1850 it cost from 14 to 16 cents per pound.

Regarding the manufacture of sugar—sugar from canes and sugar from beetroot—the details differ, but there are five operations in the production of the sugar of commerce from either material which are common in both processes. These are: The extraction of the juice; the purification or decoloration of the juice; the evaporation of the juice to syrup point; the concentration or crystallization of the syrup; the curing or preparation of the crystals for the market by separating the molasses from them.

It is impossible in the space at our disposal to give a detailed account of the various processes followed in the making of sugar. Suffice it to say that there is a general resemblance in the methods adopted at all refineries for extracting from the raw sugar the first crop of crystals, which is sugar of the highest quality and polarization. The combined processes of melting, filtration, decoloration, crystallization in the vacuum pans, spinning in the centrifugal machine, drying and packing, occupy from twenty-four to thirty-six hours when the product is granulated sugar, and from thirty-six hours to four days when first-grade cubes are produced. The process of "sinning" alluded to is for the purpose of separating the syrup from the crystallized sugar, and it is in the subsequent treatment of this syrup for the extraction of the lower grades of sugar, including "pieces," that the processes employed at the various refineries differ essentially.

An acreage is to be given to Great Britain by British East Africa. The sum of \$5,000 has been subscribed.

## SNAKES IN ENGLISH.

Puzzles For Foreigners Who Are Learning the Language.

It is hard for the person to whom English is his native tongue to realize what a struggle the foreigner has to understand some of the peculiarities of our spelling and pronunciation. One foreigner gives the following description of his first lesson in an English class.

We have been given a book to learn the letters. I arrive at the class, having learned them perfectly.

Soon, in the course of the lesson, we have the word "Love." "Love," I pronounce it, thinking the "v" has the sound of "v."

"No; it is pronounced 'lo,'" says the teacher.

"Then why is the 'w' there?" I inquire, mystified.

"It is there because that is the way the word is spelled," responds the teacher, "but it is silent. Never mind why; it is sufficient to know that it is there."

Before long we come to "now." "Pronounce it," says the teacher.

"No," I reply.

"Why will you not?" she asks me.

"You may believe I am bewildered. It is some time before she understands that I am trying to pronounce the word when I say 'No.' Then she declares that, although 'now' is 'no-w', it is now.

"If you want to make it 'no,' she explains kindly, 'you put a 'b' before it.' You may believe I am bewildered. It is some time before she understands that I am trying to pronounce the word when I say 'No.' Then she declares that, although 'now' is 'no-w', it is now.

However, I memorize that 'now' is 'no-w'. The next word is 'now.' I pronounce it like 'now' with an 'n' before it. The teacher laughs. The 'w' again becomes silent, apparently for no reason, and the word is called 'no.' But that is not all. Later I find that if you drop the 'n' from 'now' you can pronounce it whichever way you like—Yonh's Companion.

## LONDON'S QUEER MARKET.

All Its Wares Are Strawn Upon the Cobble Pavements.

There are many queer markets scattered over the face of the globe, but London, among its many other unique features, is the proud possessor of what is perhaps the strangest and most extraordinary of them all.

At the Caledonia market, Ellington, whence the great metropolis draws a large proportion of its meat supply, the cobbled pavements, with their countess rows of white fenced pens, are usually given up to the display of fat stock, but Fridays "a change comes over the spirit of the dream." The cobbled pavements are there, the white pens still break up the wide expanse, but no cattle or sheep are to be seen.

On that day the great market is given over to a throng of miscellaneous traders, whose wares provide the most amazing contrasts imaginable. There is nothing in the whole gamut of human devices and needs which one may not come across displayed in some odd collection set forth on the cobbled streets of London, whether he has a stock of goods or a few hundred pounds or a few shillings.

Moreover, many remarkable places there are markets within markets, each taking its regular turn and place during the day and then packing up and vanishing. The market was opened by Prince Albert, Queen Victoria's consort, about sixty years ago.—Wide World Magazine.

## Wager of Battle.

In 1817 one Richard Thornton, called to the bar of the king's bench charged with the murder of Mary Ashford, in open court threw down his glove and defied his accuser, whereupon there was a pretty do. Wager of battle, it was supposed, had died a natural death in the dark ages, but Lord Eldonborough after much consultation of precedent held that it was still the law of England and ordered a field to be prepared. Thornton's accuser thereupon declining combat, the prisoner was discharged. Next year parliament passed an act abolishing this privilege of appeal to the strong right arm.

## Conceited.

"So you broke your engagement with him?"

"Yes."

"What for?"

"He's a conceited thing. I simply couldn't stand him."

"I never heard him brag. What makes you think him conceited?"

"All the time we were engaged he never once told me that he was unworthy of my love."—Detroit Free Press.

## Provisional Government.

"Father," said the small boy, "what is a provisional government?"

"Well, my son, my impression is a general way is that a provisional government is one that has to keep bustling from day to day for provisions."—Washington Star.

## The Best of Friends.

"Are you good friends of the Browns?"

"I should think so. We're taking care of their canary, budgie and goldfish while they're abroad."—Detroit Free Press.

## Difficult Feet.

There are a lot of difficult feet, but probably the most difficult of all is that of remembering the name of the man to whom you have just been introduced.—Philadelphia Ledger.

## Lay Both on Side with Both Hands.

Whenever these events take place, it is interesting.—Globe.

## A MYSTERIOUS DESERT.

Weird Tales That Are Told of the "Lost Appalling Gobi"

Slowly we traveled across the great waste of Mongolia, the "lost appalling Gobi" of game writers, but to us a land of beauty, even if it is a somewhat terrifying character, for here more nearly than in any other land is beauty allied to terror.

These silent steppes the natives believe to be the haunts of "gods" and the rendezvous of evil spirits. As a recent writer has said, "The great sandy desert of Gobi has been looked on as the dwelling place of malignant beings from the days of hoary antiquity."

All lockless travelers in this region from the days of Marco Polo onward have recorded strange stories of weird beings that inhabit the depths of the wastes. Mysterious singing and waiting, beating of drums and distant music are said to beguile the traveler and lead him off the track until he is hopelessly lost in the wilderness. A recent Russian explorer gives quite a detailed account of the wild men of the desert.

Listen to the strange story told by Konof, who traversed the desert of Mongolia in its widest part not long ago: "These wild men, the Klu-Klu, as they are called, are covered with short wool similar to the fur of a young camel. They have long black hair and black eyes. They are of ordinary size, but rather long legged. They roam the steppes in pairs, and when harassed by man they scream, whistle and snarl as they run away. The native Kirghis claim to have caught them occasionally, but the captives refuse food and drink and die after a few days."—Wide World Magazine.

## WIDOWS IN MADAGASCAR.

Their First Year of Mourning One of Abuse and Misery.

There are no gay widows in Madagascar—not, at least, for one year after the husband has died. In Madagascar, on the death of any man of position, on the day of the funeral the wife is placed in the house, dressed in all her best clothes and wearing her silver ornaments, of which in general she possesses a considerable quantity. There she remains until the rest of the house has returned from the funeral.

As soon as her relatives return they begin to revile her in most abusive language and tell her that it is her fault that she has been stronger than her husband and that she is really the cause of his death. They proceed to tear the ornaments from her ears and neck and arms and give her a coarse cloth and a spoon with a broken handle and a dish with the foot broken off. Her hair is disheveled, and she is covered with a coarse mat, under which she remains all day long and can only leave at night. And she may not speak to any one who goes into the house. Neither is she allowed to wash her face or hands, but only the tips of her fingers.

All this the Madagascar widow endures for a year, or at least for eight months, and even when this is over her life is not allowed to be a happy one. She is not allowed to marry again, and her own relatives until she has been first divorced by her husband's family.—Chicago Tribune.

## Obeying the Law.

A small town in Mississippi passed a law that no wheelbarrows should be allowed on the sidewalks in the business portion of the city. Soon after the law was passed one Saturday, which is the busiest day of the week, while the streets were crowded, a negro came along the main street trundling a wheelbarrow filled with groceries. The city marshal stopped him, telling him he was under arrest for pushing his wheelbarrow on the street. The negro looked at the officer for a moment, and then, picking up his little girl, who was walking by his side, he placed her upon the top of the groceries and, turning to the officer, said: "Go on, white man. Dis here ain't no wheelbarrow. Dis is a baby carriage."—New York Times.

## With and at a Will.

A drill sergeant was drilling the recruit squad in the use of the rifle. Everything went smoothly until blank cartridges were distributed. The recruits were instructed to load their rifles and stand at the "ready," and then the sergeant gave the command: "Fire at will!"

Private Dunn was puzzled. He lowered his gun.

"Which one is will?" he asked.—New York Post.

## He Listened to All.

Fontenelle listened to everything, and he offended no one by disputing anything. At the close of his life he was asked the secret of his success, and he replied that it was by observing two maxims, "Everybody may be right" and "Everything may be so."

## Her Postscript.

"Why does a woman always add a postscript to her letter?"

"Well," answered the ungifted wretch, "she probably figures out in her own mind what her letter has made you think and then tries to have the last word."

## The Dearest Thing.

Edith: You haven't seen my engagement ring yet, have you? Marie: I don't know, dear. What's the man's name?

## The Beginning of Wisdom Is Not in the Mind, but in the Heart.—Aldrich.

## FEEDING GRAIN TO COWS ON PASTURE

The question is frequently asked whether it is economical to feed grain to cows during the pasture season, writes H. V. Ellington in Orange Judd Farmer. On this question there is a considerable difference of opinion. Judging by the direct results in milk production from feeding grain to cows on succulent and abundant pasture, there seems to be no profit in such procedure. While there may be some increase in milk yields, the increased yields do not in all instances pay for the grain consumed.

The pastures in the early spring are immature, and the grass contains a high percentage of water and a low percentage of dry matter, and the high producing cow does not secure sufficient nutrients to furnish the needs of the body and maintain a large production of milk. For a cow of this type, it is one that produces one to two pounds of butter fat daily, a grain ration



Photo by Kansas Agricultural college.

The Owl's Design, here pictured, a pure bred Jersey cow owned by the Kansas State Agricultural college, is the first Jersey in Kansas to make over 700 pounds of butter in a year. She completed her record on the 17th of March and made during the year 14,000 pounds of milk and 60 pounds of butter fat, which is equivalent to 70 pounds of butter. The milk record classes The Owl's Design among the first seven Jersey cows of the world. Only six have made more than this amount, according to R. M. Gow of the American Jersey Cattle club.

tion should supplement the pasture and she should be allowed all the legume hay that she will consume.

The cow that is producing an average quantity of milk—say from twenty-five to thirty pounds of milk of average quality—will produce but little more when fed grain to supplement good pasture and for economy of production should not be so fed. Experimentation has proved that an additional pound of milk was secured for each pound of grain fed, but it was observed that cows that received grain during the pasture season gave 16 per cent better returns after the grazing period was over than did those that received no grain. In other words, there was an increase in weight in the lot that were fed grain which resulted in the laying up of a considerable amount of surplus nutrients on their body which was utilized in future production.

## Trying Hard.

An artist who had a lofty studio lately spent two months among the darker dwellings of London, sketching the laborer in the mass, children with dull eyes, houses with broken window panes.

One morning he was in a petty sessions court in the east end and a battered man was before the magistrate charged with drunkenness.

"When you were here thirty days ago," said the magistrate, "didn't you promise to sign the pledge?"

"I'm a-going to, y' honor," said the culprit, "as soon as I can learn to write. I'm takin' lessons, but I ain't makin' much progress."

## Reclaiming the Desert of Sahara.

"In the popular mind, the reclamation of the desert of Sahara is regarded as one of the most momentous tasks which could be undertaken, but, as a matter of fact, it is quite simple, says a well-known engineer who has just returned from abroad. "It is a much simpler project than the draining and irrigation of Upper Egypt, which has been recently accomplished by the English Government. The Sahara was once a fertile spot, covered with large rivers, and part of the scheme contemplates the utilization of these old river beds, abandoned by nature, for the purpose of again conveying the water which is to rejuvenate this desolate area."

## Her Suspicion Aroused.

They were discussing the new lodger.

"He slips in and out of the house so quietly," said the grass widow boarder, "that I think he must have been a married man once."

"Perhaps it is that," says Mrs. Haskeroff, as a troubled look came over her face, "and maybe he is in the habit of getting behind with his board."—London Stray Stories.

## Maximilian and "La Paloma."

Whenever that haunting air, "La Paloma," is played the memory of the Emperor Maximilian, shot by the Mexicans on June 19, 1887, should be preserved. Maximilian's final request was that "La Paloma" should be played while he stood up to meet his doom. His died with the tune in his ears, and his wife went mad with the shock of his execution.

## German Pencils.

German pencil factories produce annually 3,000,000 gross of lead, colored, copying and slate pencils and pencils.

## SAVAGE MEXICO.

Internal Warfare There is of a Very Brutal Type.

With the gradual spreading of revolutionary activity to parts of Mexico hitherto more or less unaffected, tales of atrocities and indignities to foreigners filter into Mexico City in increasing number. Early in July there had become so common that whereas a year ago they would have caused great indignation and possibly prompt representations by foreign Governments, it is doubtful if they receive now more than inclusion in a possible claim for damages, in due time, upon the Mexican Government.

An experience related by passengers on a train proceeding northward from Torreon appears to place a certain contingent of the northern rebels in a class with the followers of Zapata of the south on the score of barbarous treatment of their victims. The train was stopped near Bernalillo by a burned bridge. A band of intoxicated rebels or bandits swooped down upon the passengers, robbed them of everything, including clothing, not sparing even the women victims, of whom there were half a dozen Anglo-Saxons.

A foreigner detected trying to hide a revolver, was taken out and shot. He fell severely wounded. An Englishman, of whom was demanded a diamond ring he wore, and which he had difficulty in removing, was assisted by means of a knife. The finger was chopped away so that the ring could be obtained. The passengers were eventually allowed to go and walked miles into Torreon.

Another experience growing out of an effort to escape a worse fate was that of a group of foreigners, refugees from a mining camp near Topolobampo, Sinaloa. There were three women in the party, which made its way to the coast town. To catch a coasting steamer due at an uncertain date, the refugees had to put out to an island, sun scorched and without a house or tree. Its only inhabitants were shark fishers and the stench of decaying shark fish was next to unbearable. For two days the refugees endured great hardship and discomfort; then a gunboat appeared.

A boat was sent off, but the officer in charge had orders to take only employees of a certain mining company. Nine were accordingly taken aboard and the rest, including the three women, waited two days longer, when, almost in despair, they were picked up by the coasting steamer, described as a filthy affair, already overloaded, which landed them in Mazatlan.

President Huerta, it is said, has great confidence in the ability of his new Cabinet to aid him in his work of pacification, but he expects them to devote their attention to the work of their respective departments and not let their covetous eyes dwell upon his seat. This he made quite clear to them at the first formal gathering of the new administrators. To them Huerta said, after the usual felicitations, that he expected each Minister to be supreme in his own post, so far as possible, and that they would experience little interference from him. But, on the other hand, he warned them to "Ouidarse Con La Pintura," a legend often seen on new edifices in Mexico, meaning "watch out for paint."

To his puzzled Ministers, who asked him to explain, the President said, patting the back of the chair he customarily occupies at his Cabinet meetings: "I mean that this old chair suits me very well, and for the present you should not try to improve it. Pay attention strictly to the duties of your office after mine."

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## German Pencils.

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## WILY KING EDWARD I.

Fostered the Rebellious Welsh With the Prince of Wales.

After a lifelong struggle with the Welsh, Edward I. of England sought to ascertain the cause of their constant rebellion and was informed that they would never be content until they had a prince of their own.

The wily old monarch asked them if a prince born in Wales who could not speak a word of English would be satisfactory, and they received the offer with great enthusiasm, presuming that the king meant one of their own flesh and blood.

His queen, about to give birth to a child, was hurried to the famous Caernarvon castle, where 600 years ago Edward II., the first prince of Wales, was born. Thereupon King Edward, carrying the newly born babe on the ramparts of the castle, announced to the multitude: "Here is your prince, born in your own country, who knows no word of English and who, I promise you, shall be reared by a Welsh foster-mother and shall learn your language. Accept you him as your prince?"

In all the six centuries intervening the eldest son of the king of England has been invested and known as the Prince of Wales. In the year 1911 the present Prince of Wales and the future king of England was invested on the same spot as his predecessor 600 years ago.—T. Owen Charles in National Magazine.

## HEAT AND THE BODY.

We Are Able to Drink Liquids That Would Scald Our Hands.

The human body can stand far greater heat if it be dry than if it be wet, and, strangely enough, it can stand far hotter liquids inside than out.

For example, the average tea drinker sips tea at a temperature of about 140 degrees F.—sometimes as high as 145 degrees. But he cannot bear his hands in water at 120 degrees or his feet in water higher than 112 degrees. Few people can stand a bath in water at 105 degrees.

In parts of central Australia men live in an average temperature of 115 degrees F. in the shade and 140 degrees in the sun, while 151 degrees has been registered. In the Persian gulf the thermometers on ships vary between 122 degrees and 140. A recent explorer in the Himalayas reports that he found at 9 a. m. in December and at more than 10,000 feet altitude a temperature of 131 degrees F.

Dr. Bleyden and Chantrey, two English scientists, desiring to ascertain how high a temperature the human body could stand, shut themselves in an oven, of which the heat was gradually raised and they were able to bear it until the thermometer registered 212 degrees F., the boiling point of water.—St. Louis Post-Dispatch.

## Ruskin as a Patient.

Matlock, so dear to John Ruskin, brought him within sight of death in 1871. It was a wretched, wet summer; he went out in a miserable morning to paint, took a chill, and aggravated the internal inflammation that followed to a dangerous degree by refusing to take the doctor's medicines. The sequel is delightful. It showed at the doctor's remonstrance, he demanded what was the worst thing he could take. Beef, they told him, and beef he insisted upon having at once. It was late at night and Matlock was secured for some time before beef could be found. Then, says Mrs. Arthur Severn, he "enjoyed his late supper thoroughly, and though we all waited anxiously till the morning for the result, it had done him no harm. And when he was told pepper was bad for him he dredged it freely over his food in defiance."

## The Least He Might Do.

Little Faith was possessed of a most friendly disposition, but had not yet reached the age where she could understand the silence that may wrap itself around a wordless intimacy. In fact, she demanded speech, frequent and loving.

One night her brother was studying most assiduously his arithmetic lesson, and after calling to him several times without receiving an answer, she appealed to her father.

"George is busy," said father.

"I know," replied Faith, "but he might at least have said, 'Shut up.'"

## Woman's Home Companion.

Curious Mixture.

A want advertisement from a serious French journal reads:

"A young person having received an excellent education, including writing, geography, history, mathematics, dancing, music and art, would like to enter a respectable family to do washing and ironing."—Everybody's.

## Only One of a Kind.

"Why do you think he is such a remarkable man?"

"He's the only one I ever knew who did nerve enough to make the responses in the marriage service loud enough so that any one could hear him."—Chicago Post.

## Enlightened.

The Student—I always get these two terms mixed. What is the difference between matrimony and matrimony? The Professor—Matrimony is engineered by the mother and the necessary matrimony is supplied by the father.—Kansas City Star.

## The Bachelor's View.

"What is the most aggravating thing to married life?" asked Dorothy.

"Sometimes," said the bachelor friend, "it's the husband, and sometimes it's the wife."