**Sugar and Society**

*How has sugar impacted on human development and health?*

The use of sugar and sugar production goes back to ancient times. On the island of New Guinea, where sugar cane was domesticated some 10,000 years ago, people picked cane and ate it raw. Sugar spread from island to island in the south-western Pacific Ocean, finally reaching the Asian mainland around 1000 B.C. By A.D. 500 it was being processed into a powder in India and used among other things to treat headaches and stomach problems. For years, sugar refinement remained a secret science, passed from master to apprentice. By A.D. 600 the art had spread to Persia, and then when Arab armies conquered the region, they carried away the knowledge and love of sugar, and turned the art into an industry. The work was brutally difficult, however. By A.D. 1500, with the demand for sugar surging, the work was considered suitable only for the lowest of labourers.

The sugar that eventually reached the West was consumed only by the very wealthy as it was so rare. The European ‘Age of Exploration’, the search for new land that would send Europeans all around the world, was in reality, to no small degree, a hunt for fields where sugar cane would prosper in the tropical temperatures and rainfall. In 1425 the Portuguese prince known as Henry the Navigator sent sugar cane to Madeira with an early group of colonists. The crop soon made its way to other newly discovered Atlantic islands. Then, in September 1493, when Christopher Columbus set off from Spain on his second voyage to the Americas, he too carried cane. Thus dawned the age of big sugar production in the Caribbean islands.

As more cane was planted, the price of the product fell, and as the price fell, demand increased. Economists call it a ‘virtuous cycle’ – not a phrase you would use if you were one of the millions of slaves involved in production. In the mid-17th century sugar began to change from a luxury spice to a staple part of the diet: first for the middle class, then for the poor. There was no stopping the boom. In 1700 the average Englishman consumed four pounds a year. Today the average American consumes 77 pounds of added sugar annually, or more than 22 teaspoons of added sugar a day.

‘It seems like every time I study an illness and trace a path to the first cause, I find my way back to sugar,’ says Richard Johnson, a nephrologist at the University of Colorado Denver. ‘Why is it that one-third of adults [worldwide] have high blood pressure, when in 1900 only 5% had high blood pressure?’ he asks. ‘Why did 153 million people have diabetes in 1980, and now we’re up to 347 million? Sugar, we believe, is one of the culprits, if not the major culprit.’ This is hardly a novel theory. In the 1960s the British nutrition expert John Yudkin conducted a series of experiments on animals and people showing that high amounts of sugar in the diet led to high levels of fat and insulin in the blood – risk factors for heart disease and diabetes. But Yudkin’s message was drowned out by a chorus of other scientists blaming the rising rates of obesity and heart disease instead on cholesterol caused by too much saturated fat in the diet.

As a result, fat makes up a smaller portion of the American diet than it did 20 years ago. Yet the portion of America that is obese has only grown larger. The primary reason, says Johnson, along with other experts, is sugar, and in particular fructose. Sucrose, or table sugar, is composed of equal amounts of glucose and fructose, the latter being the kind of sugar you find naturally in fruit. It’s also what manufacturers use to give table sugar its sweetness, and which is found in large quantities in soft drinks and candy. Johnson summed up the conventional wisdom this way: Americans are obese because they eat too much and exercise too little. But they eat too much and exercise too little because they’re addicted to sugar, which not only makes them fatter but also reduces their energy.

The solution? Stop eating so much sugar. When people cut back, many of the ill effects disappear. The trouble is, in today’s world it’s extremely difficult to avoid sugar: manufacturers use sugar to replace taste in foods low in fat so that they seem more healthful. But if sugar is so bad for us, why do we crave it? The short answer is that an injection of sugar into the bloodstream stimulates the pleasure centres of the brain. All tasty foods do this to some extent— but sugar has a sharply pronounced effect. In this sense it is literally addictive.

*Choose the correct answer,* ***A, B, C*** *or* ***D****.*

**1** What are we told about sugar production in ancient times?

**A** It became physically less demanding as production methods improved.

**B** The Arabs simplified the way the Persians had produced sugar.

**C** It was a process that producers did not wish to share with other people.

**D** India produced sugar mainly for medicinal purposes rather than dietary ones.

**2** What does the writer suggest about the ‘Age of Exploration’?

**A** It led to a new understanding of how sugarcane would best grow.

**B** It was partly motivated by the need to develop the sugar industry.

**C** It was a time when it was easy to persuade people to invest in sugar.

**D** It probably resulted in the development of new kinds of sugar cane.

**3** What is the writer’s main point in the third paragraph?

**A** Sugar has changed from being a rare food item to an everyday one.

**B** People in lower socio-economic groups are now the highest consumers of sugar.

**C** Most people are unaware of how the sugar industry once exploited workers.

**D** Economists in the 17th century failed to predict how the demand for sugar would grow.

**4** The writer refers to John Yudkin’s experiments in order to show

**A** when the connection between sugar and heart disease was established.

**B** that using animals to predict human reaction to sugar is an unreliable method.

**C** that scientists are likely to alter their opinions on the effects of sugar in the future.

**D** how there is a need for further research into the combined effects on health of fat and sugar**.**

**5** What is the writer doing in the fifth paragraph?

**A** calling for greater responsibility on the part of manufacturers

**B** questioning the value of high fruit consumption to people’s health

**C** comparing the benefits of natural sugar to its processed form

**D** explaining the nature and consequences of a particular cycle

**6** Which of the following best summarises the writer’s argument in the final paragraph?

**A** It is naturally harder for some people to reduce their sugar intake than others.

**B** Sugar is frequently used to disguise the unpleasant taste of certain foods.

**C** The human brain is designed to have a positive response to sugar.

**D** Consumers are easily misled about the true sugar content in products.