Researchers getting to the root of vitamins

By Carl Zimmer, New York Times

In 1602, a Spanish fleet was sailing up the Pacific coast of Mexico when the crew became deathly ill. “The first symptom is pain in the whole body that makes it sensitive to touch,” wrote Antonio de la Ascensión, a priest on the expedition. “Purple spots begin to cover the body, especially from the waist down; then the gums become so swollen that the teeth cannot be brought together, and they can only drink, and finally they die all of a sudden, while talking.”

The crew was suffering from scurvy, a disease that was then both bitterly familiar and deeply mysterious. No one knew why it struck sailors or how to cure it. But on that 1602 voyage, Ascensión witnessed what he considered a miracle. While the crew was ashore burying the dead, one sick sailor picked up a cactus fruit to eat. He started to feel better, and his crewmates followed his example.

“They all began to eat them and bring them back on board so that, after another two weeks, they were all healed,” the priest wrote.

Over the next two centuries, it gradually became clear that scurvy was caused by a lack of fruits and vegetables on long-distance voyages. In the late 1700s, the British Navy started supplying its ships with millions of gallons of lemon juice, eradicating scurvy. But it wasn’t until 1928 that the Hungarian biochemist Albert Szent-Gyorgyi discovered the ingredient that cured scurvy: vitamin C.

Szent-Gyorgyi’s experiments were part of a wave of early-20th-century research that pulled back the curtain on vitamins. Scientists discovered that the human body required minuscule

amounts of 13 organic molecules. A deficiency of any of the vitamins led to different diseases – a lack of vitamin A to blindness, vitamin B12 to severe anemia, vitamin D to rickets.

Today, a huge amount of research goes into understanding vitamins, but most of it is focused on how much of them people need to stay healthy. This work does not address a basic question, though: How did we end up so dependent on these peculiar little molecules?

Read the whole story